

ATTACHMENT 7

**EFFLUENT/SLUDGE/GROUND WATER
LIMITATIONS/MONITORING**

**RATIONALE/SUITABLE DATA/STREAM MODELING/
ANTIDEGRADATION/ANTIBACKSLIDING**

EFFLUENT LIMITATIONS AND MONITORING RATIONALE ARE BASED ON THE FOLLOWING:

- FLOW** – The design flow of the facility is 2.4 million gallons per day (MGD). Flow monitoring is continuous by totalizing, indicating and recording equipment (in MGD). This monitoring frequency is in accordance with guidance for this size facility and should be appropriate for assessment of treatment plant capacity.
- pH** – The limits of 6.0 to 9.0 standard units are based on secondary treatment limits (40 CFR 133.102) and are protective of water quality. The monitoring frequency is set at 1/day and the sample type is grab (required for pH). This monitoring frequency and sample type should provide enough data for proper assessment of compliance with the effluent limit.
- BOD₅ (Dec.-April, Wet Season Limits)**- The permit limits of 25 mg/l (monthly avg.) and 37.5 mg/l (weekly avg.) for BOD₅ are based on a January 1990 waste load allocation model (See memo "Wet Season Effluent Limits for Proposed Farmville STP" in attachment 7). These limits were established as a result of the Town of Farmville requesting wet season effluent limits for the treatment plant. These limits were carried forward from the previous permit. The mass limit of 100 kg/day (monthly average) is a restricted allocation based on the current Upper James River Water Quality Management Plan (WQMP). The weekly average is set at 1.5 times the monthly average as per EPA guidelines/guidance. The monitoring frequency is 1/Day and the sample type is 24-hour composite (based on design flow). This is in accordance with guidance for this size facility and should provide enough data for proper assessment and compliance with the effluent limits and water quality standards.
- BOD₅ (May-Nov.)**- The limits of 11 mg/l (monthly avg.) and 16.5 mg/l (weekly avg.) are based on a previous waste load allocation model for critical conditions (low flow periods). The mass limit of 100 kg/day (monthly average) is based on the design flow of 2.4 MGD and is in conformance with the current Upper James River WQMP. The weekly average is set at 1.5 times the monthly average as per EPA guidelines/guidance. These limits were carried forward from the previous permit. The monitoring frequency is 1/Day and the sample type is 24-hour composite (based on design flow). This is in accordance with guidance for this size facility and should provide enough data for proper assessment of compliance with the effluent limits and water quality standards.
- TSS (Dec.-April, Wet Season Limits)**- The limits of 25 mg/l and 227 kg/d (monthly avg.) are based on the BOD₅ concentration from 1990 model (Best Professional Judgement). The weekly average limits of 37.5 mg/l and 341 kg/d are set at 1.5 times the monthly average as per EPA guidelines/guidance. These limits are protective of water quality. The monitoring frequency is 1/Day and the sample type is 24-hour composite (based on design flow). This is in accordance with guidance for this size and type of facility and should provide enough data for proper assessment of compliance with the effluent limits and water quality standards.
- TSS (May-Nov.)**- The limits of 11 mg/l and 100 kg/d (monthly avg.) are based on the BOD₅ concentration from previous waste load allocation model for critical conditions (Best Professional Judgement). The weekly average limits of 16.5 mg/l and 150 kg/d are set at 1.5 times the monthly average as per EPA guidelines/guidance. These limits are protective of water quality. The monitoring frequency is 1/Day and the sample type is 24-hour composite (based on design flow). This is in accordance with guidance for this size and type of facility and should provide enough data for proper assessment of compliance with the effluent limits and water quality standards.
- TRC** - The total residual chlorine limits of 54 µg/l (monthly average) and 66 µg/l (weekly average) are based on the acute water quality criterion and will ensure compliance with water quality standards. The monitoring frequency is 1/Day and the sample type is grab (required for chlorine). This monitoring frequency and sample type is in accordance with guidance for this size facility and should provide enough data for proper assessment of compliance with the effluent limits and water quality standards.
- DO -(Dec.-April, Wet Season Limits)**- The dissolved oxygen limit of 6.5 mg/l (minimum) is based on a January 1990 waste load allocation model and is protective of water quality. The monitoring frequency is set at 1/Day and the sample type is grab (required for dissolved oxygen). This monitoring frequency and sample type is in accordance with guidance for this size facility and should provide enough data for proper assessment of compliance with the effluent limit.

DO-(May-Nov.)-The dissolved oxygen limit of 5.0 mg/l (minimum) is based on Best Professional Judgement (helps insure protection of water quality) and was carried forward from the previous permit. The monitoring frequency is set at 1/Day and the sample type is grab (required for dissolved oxygen). This monitoring frequency and sample type is in accordance with guidance for this size facility and should provide enough data for proper assessment of compliance with the effluent limit.

Ammonia Nitrogen-(Dec.-April, Wet Season Limits)- NH₃-N -The ammonia-nitrogen limits of 15.6 mg/l (monthly average) and 23.5 mg/l (weekly average), and are set to insure compliance with the chronic water quality criterion (see memorandum of January 12, 1990). The weekly maximum limit of 23.5 mg/l is 1.5 times the noted monthly average value as per EPA guidelines/guidance. The monitoring frequency is 1/Month and the sample type is 24-hour composite (based on flow). This monitoring frequency and sample type is in accordance with guidance for this size facility and should provide enough data for proper assessment of compliance with the effluent limits and water quality standards.

Ammonia Nitrogen-(May-Nov.)-The ammonia-nitrogen limits of 5.9 mg/l, (monthly average) and 8.9 mg/l (weekly average), are set to insure compliance with the chronic water quality criterion. The weekly maximum limit of 8.9 mg/l is 1.5 times the noted monthly average value as per EPA guidelines/guidance. The monitoring frequency is 1/Month and the sample type is 24-hour composite (based on flow). This monitoring frequency and sample type is in accordance with guidance for this size facility and should provide enough data for proper assessment of compliance with the effluent limits and water quality standards.

Total Recoverable Copper- The copper limits of 23 ug/l (monthly avg.) and 23 ug/l, (weekly avg.) are set to insure compliance with the chronic water quality criterion and are carried forward from the previous permit. The sample type is 24-hour composite and the monitoring frequency is 1/Month. This monitoring frequency and sample type is in accordance with guidance for this size facility and should provide enough data for proper assessment of compliance with the effluent limit.

Total Phosphorus & Total Nitrogen – Technology based concentration limits of 0.3 mg/l (monthly average) for T. phosphorus and 5.0 mg/l (monthly average) for T. Nitrogen have been added to the permit with this reissuance. This is in accordance with 9 VAC 25-40-70 A which authorizes DEQ to include technology-based annual concentration limits in permits of facilities that have installed nutrient control equipment, whether by new construction, expansion or upgrade. Additionally, inclusion of these limitations is consistent with guidance for dischargers to the Chesapeake Bay based on the "Permitting Considerations for Facilities in the Chesapeake Bay Watershed, GM No. 07-2008, Amendment No. 2" The facility is still in the process of upgrading the plant to meet the technology limitations. Based on this, both limits become effective January 1, 2011. This effective date is consistent with the loading limitation effective dates contained in the General Permit For Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Bay Watershed in Virginia". The monitoring frequency is set at 1/Week and the sample type is 24-hour composite. This monitoring frequency and sample type is in accordance with guidance for this size facility and should provide enough data for proper assessment of compliance with the effluent limits.

E. coli - The limit of 126 N/CML (monthly average) is new with this reissuance and is protective of water quality. A derivation of the limit with a margin for expansion, expressed as an annual mass loading (4.18×10^{12} cfu/year), is contained in the "Total Maximum Daily Load Development for the Appomattox River Basin". The monitoring frequency is set at once per week and the sample type is grab (to be collected between 10am and 4pm). This monitoring frequency and sample type are in accordance with guidance for this size facility and should provide enough data for proper assessment of compliance with the effluent limits.

SLUDGE LIMITATIONS AND MONITORING RATIONALE ARE BASED ON THE FOLLOWING:

Sewage sludge from this facility is aerobically digested and held in sludge holding basins for future land application by an applicator holding a continued Biosolids Use Regulation permit issued by the Virginia Department of Health or a Newly issued VPA Biosolids permit issued by DEQ. The facility currently has contracted Nutri-Blend to apply all biosolids produced. The permittee is required to perform the sewage sludge annual monitoring as specified in Part I.A.2. of the permit. This monitoring is based on the sludge being classified as cumulative pollutant loading rate (CPLR) sludge. In addition, the permittee will also need to comply with all requirements found in Section I.F. of the permit. These conditions are in accordance with the VPDES Permit Regulation and guidance.

The sludge is listed as Class B and must meet the minimum requirements specified within the VPDES Permit Regulation. The Pathogen Reduction Limitations are set forth in Section 9 VAC 25-31-710. The method noted is specific to aerobic digestion, which is utilized at the facility and is set forth in 9 VAC 25-31-710 D.1. The Vector Attraction Reduction Limitations are set forth in Section 9 VAC 25-31-720 B. of the VPDES Permit Regulation. The specific method noted is set forth in 9 VAC25-31-710 B.4., which is specific to aerobic digestion.

Based on the generation of under 290 metric tons (dry weight) of sludge per year, the monitoring frequency is set at once per year. As this POTW is a major, there are both record keeping and reporting requirements.

GROUND WATER MONITORING RATIONALE IS BASED ON THE FOLLOWING:

Ground Water Monitoring Well Nos. 1 (down gradient) and 2 (down gradient)

Ground Water Level - Needed to assess the ground water elevation at the time of well sampling and helps to verify ground water flow direction. The sample type is measured and the monitoring frequency is once per six months. This sample type and monitoring frequency is in accordance with guidance and should be appropriate for assessment of ground water quality.

pH - The sample type is grab (required for pH) and the monitoring frequency is once per six months. This sample type and monitoring frequency is in accordance with guidance and should be appropriate for assessment of ground water quality.

Specific Conductance - This test provides an indication of dissolved solids. Dissolved solids (e.g., chlorides) are mobile in the ground water and this test is used as another check. The sample type is grab and the monitoring frequency is once per six months. This sample type and monitoring frequency is in accordance with guidance and should be appropriate for assessment of ground water quality.

Chlorides, Nitrate-Nitrogen, Fecal Coliform, Ammonia Nitrogen, and Total Phosphorus - These parameters are characteristic of domestic sewage and are mobile in the ground water (good indicator parameters). Fecal coliform is also an indicator of well contamination possibly due to operations. The sample type is grab and the monitoring frequency is once per six months. This sample type and monitoring frequency is in accordance with guidance and should be appropriate for assessment of ground water quality and holding basin liner integrity.

TOC - This parameter is used, in part, to verify well integrity. The sample type is grab and the monitoring frequency is once per six months. This sample type and monitoring frequency is in accordance with guidance and should be appropriate for assessment of ground water quality and monitoring well integrity.

Monitoring Reductions for Reissuance Review

Reduced monitoring is based on facility performance. Only facilities having exemplary operations that consistently meet permit requirements should be considered for reduced monitoring. The facility has been referred to enforcement due to non-compliance so is not eligible for reduced monitoring at this time. Refer to attached compliance record summary.

Mixing Zone Predictions for

Farmville WWTP

Critical low flow

Effluent Flow = 2.4 MGD
Stream 7Q10 = 12.28 MGD
Stream 30Q10 = 18.1 MGD
Stream 1Q10 = 9.69 MGD
Stream slope = 0.0001 ft/ft
Stream width = 35 ft
Bottom scale = 1
Channel scale = 1

Mixing Zone Predictions @ 7Q10

Depth = 1.6543 ft
Length = 1592.79 ft
Velocity = .3925 ft/sec
Residence Time = .047 days

Recommendation:

A complete mix assumption is appropriate for this situation and the entire 7Q10 may be used.

Mixing Zone Predictions @ 30Q10

Depth = 2.0373 ft
Length = 1321.55 ft
Velocity = .445 ft/sec
Residence Time = .0344 days

Recommendation:

A complete mix assumption is appropriate for this situation and the entire 30Q10 may be used.

Mixing Zone Predictions @ 1Q10

Depth = 1.4666 ft
Length = 1772.49 ft
Velocity = .3646 ft/sec
Residence Time = 1.3505 hours

Recommendation:

A complete mix assumption is appropriate for this situation providing no more than 74.05% of the 1Q10 is used.

Mixing Zone Predictions for Farmville WWTP (Wet)

Effluent Flow = 2.4 MGD
Stream 7Q10 = 47.18 MGD
Stream 30Q10 = 66.57 MGD
Stream 1Q10 = 39.13 MGD
Stream slope = 0.0001 ft/ft
Stream width = 45 ft
Bottom scale = 1
Channel scale = 1

Mixing Zone Predictions @ 7Q10

Depth = 2.9941 ft
Length = 1569.36 ft
Velocity = .5696 ft/sec
Residence Time = .0319 days

Recommendation:

A complete mix assumption is appropriate for this situation and the entire 7Q10 may be used.

Mixing Zone Predictions @ 30Q10

Depth = 3.6894 ft
Length = 1295.25 ft
Velocity = .643 ft/sec
Residence Time = .0233 days

Recommendation:

A complete mix assumption is appropriate for this situation and the entire 30Q10 may be used.

Mixing Zone Predictions @ 1Q10

Depth = 2.6788 ft
Length = 1736.21 ft
Velocity = .5333 ft/sec
Residence Time = .9044 hours

Recommendation:

A complete mix assumption is appropriate for this situation and the entire 1Q10 may be used.

FRESHWATER WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name: Farmville Advanced WWTP

Receiving Stream: Appomattox River

Permit No.: VA0083135

Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information

	Stream Flows			Mixing Information			Effluent Information		
Mean Hardness (as CaCO ₃) =	30.25 mg/L	1Q10 (Annual) =	9.69 MGD	Annual - 1Q10 Mix =	74.05 %		Mean Hardness (as CaCO ₃) =	133.8 mg/L	
90% Temperature (Annual) =	23.78 deg C	7Q10 (Annual) =	12.28 MGD	-7Q10 Mix =	100 %		90% Temp (Annual) =	24.55 deg C	
90% Temperature (Wet season) =	16.44 deg C	30Q10 (Annual) =	18.1 MGD	-30Q10 Mix =	100 %		90% Temp (Wet season) =	16.16 deg C	
90% Maximum pH =	7.49 SU	1Q10 (Wet season) =	38.13 MGD	Wet Season - 1Q10 Mix =	100 %		90% Maximum pH =	7.51 SU	
10% Maximum pH =	6.65 SU	30Q10 (Wet season) =	66.57 MGD	-30Q10 Mix =	100 %		10% Maximum pH =	6.6 SU	
Tier Designation (1 or 2) =	1	30 Q5 =	25.85 MGD				Discharge Flow =	2.4 MGD	
Public Water Supply (PWS) Y/N? =	n	Harmonic Mean =	50.41 MGD						
Trout Present Y/N? =	n								
Early Life Stages Present Y/N? =	y								

Parameter	Background Conc.	Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations		
		Acute	Chronic	HH (PWS)	Acute	Chronic	HH (PWS)	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	
Acenaphthene	5	-	-	na	9.9E-02	-	na	1.2E-04	-	-	-	-	-	-	1.2E+04	
Acrolein	0	-	-	na	9.3E+00	-	na	1.1E+02	-	-	-	-	-	-	na	1.1E+02
Acrylonitrile ^c	0	-	-	na	2.5E+00	-	na	5.5E+01	-	-	-	-	-	-	na	5.E+01
Aldrin ^c	0	3.0E+00	-	na	5.0E+04	1.2E+01	-	na	1.1E+02	-	-	-	-	-	1.2E+01	-
Ammonia-N (mg/l) (Yearly)	0	2.00E+01	2.40E+00	na	-	8.0E+01	2.1E+01	na	-	-	-	-	-	-	8.0E+01	2.1E+01
Ammonia-N (mg/l) (High Flow)	0	2.02E+01	3.89E+00	na	-	3.4E+02	1.1E+02	na	-	-	-	-	-	-	3.4E+02	1.1E+02
Anthracene	0	-	-	na	4.0E+04	-	na	4.7E+05	-	-	-	-	-	-	na	4.7E+05
Antimony	0	-	-	na	6.4E+02	-	na	7.5E+03	-	-	-	-	-	-	na	7.5E+03
Arsenic	0	3.4E+02	1.5E+02	na	-	1.4E+03	9.2E+02	na	-	-	-	-	-	-	1.4E+03	9.2E+02
Banum	0	-	-	na	-	-	na	-	-	-	-	-	-	-	na	-
Benzene ^c	0	-	-	na	5.1E+02	-	na	1.1E+04	-	-	-	-	-	-	na	1.1E+04
Benzidine ^c	0	-	-	na	2.0E+03	-	na	4.4E+02	-	-	-	-	-	-	na	4.4E+02
Benz (a) anthracene ^c	0	-	-	na	1.8E+01	-	na	4.0E+00	-	-	-	-	-	-	na	4.0E+00
Benz (b) fluoranthene ^c	0	-	-	na	1.8E+01	-	na	4.0E+00	-	-	-	-	-	-	na	4.0E+00
Benz (K) fluoranthene ^c	0	-	-	na	1.8E+01	-	na	4.0E+00	-	-	-	-	-	-	na	7.7E+05
Benz (a) pyrene ^c	0	-	-	na	1.8E+01	-	na	4.0E+00	-	-	-	-	-	-	na	4.0E+00
Bis2-Chloroethyl Ether ^c	0	-	-	na	5.3E+00	-	na	1.2E+02	-	-	-	-	-	-	na	4.0E+00
Bis2-Chloroisopropyl Ether ^c	0	-	-	na	6.5E+04	-	na	7.7E+05	-	-	-	-	-	-	na	7.7E+05
Bis 2-Ethylhexyl Phthalate ^c	0	-	-	na	2.2E+01	-	na	4.8E+02	-	-	-	-	-	-	na	4.8E+02
Bromotorm ^c	0	-	-	na	1.4E+03	-	na	3.1E+04	-	-	-	-	-	-	na	3.1E+04
Butylbenzylphthalate	0	-	-	na	1.9E+03	-	na	2.2E+04	-	-	-	-	-	-	na	2.2E+04
Cadmium	0	2.0E+00	6.3E+01	na	-	8.2E+00	3.8E+00	na	-	-	-	-	-	-	na	-
Carbon Tetrachloride ^c	0	-	-	na	1.6E+01	-	na	3.5E+02	-	-	-	-	-	-	na	3.5E+02
Chlordane ^c	0	2.4E+00	4.3E+03	na	8.1E+03	9.6E+00	2.6E+02	na	1.8E+01	-	-	-	-	-	na	1.8E+01
Chloride	0	8.6E+05	2.3E+05	na	-	3.4E+06	1.4E+06	na	-	-	-	-	-	-	na	-
TRC	0	1.9E+01	1.1E+01	na	-	7.6E+01	5.7E+01	na	-	-	-	-	-	-	na	-
Chlorobenzene	0	-	-	na	1.6E+03	-	na	1.9E+04	-	-	-	-	-	-	na	1.9E+04

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Ethylbenzene	0	-	-	na	2.1E+03	-	-	na	2.5E+04	-	-	-	-	-	-	2.5E+04	
Fluoranthene	0	-	-	na	1.4E+02	-	-	na	1.6E+03	-	-	-	-	-	-	1.6E+03	
Fluorene	0	-	-	na	5.3E+03	-	-	na	6.2E+04	-	-	-	-	-	-	6.2E+04	
Fraerming Agents	0	-	-	na	-	-	-	na	-	-	-	-	-	-	-	-	-
Guthion	0	-	1.0E-02	na	-	-	-	na	6.1E-02	-	-	-	-	-	-	6.1E-02	
Hapachlor ^c	0	5.2E-01	3.8E-03	na	7.9E-04	2.1E+00	2.3E-02	na	1.7E-02	-	-	2.1E+00	2.3E-02	-	na	1.7E-02	
Hapachlor Epoxide ^c	0	5.2E-01	3.8E-03	na	3.9E-04	2.1E+00	2.3E-02	na	8.9E-03	-	-	2.1E+00	2.3E-02	-	na	8.6E-03	
Hexachlorobenzene ^c	0	-	-	na	2.9E-03	-	-	na	6.4E-02	-	-	-	-	-	-	6.4E-02	
Hexachlorobutadiene ^c	0	-	-	na	1.8E-02	-	-	na	4.0E+03	-	-	-	-	-	-	4.0E+03	
Hexachlorocyclohexane	0	-	-	na	4.9E-02	-	-	na	1.1E+00	-	-	-	-	-	-	1.1E+00	
Alpha-BHC ^c	0	-	-	na	1.7E-01	-	-	na	3.7E+00	-	-	-	-	-	-	3.7E+00	
Hexachlorocyclohexane Beta BHC ^c	0	-	-	na	1.8E+00	3.8E+00	-	na	4.0E+01	-	-	-	-	-	-	4.0E+01	
Hexachlorocyclohexane Gamma-BHC ^c (Lindane)	0	9.5E-01	na	na	1.1E+03	-	-	na	1.3E+04	-	-	-	-	-	-	1.3E+04	
Hexachlorocyclopentadiene	0	-	-	na	3.3E+01	-	-	na	7.3E+02	-	-	-	-	-	-	7.3E+02	
Hexachloroethane ^c	0	-	-	na	2.0E+00	-	-	na	1.2E+01	-	-	-	-	-	-	1.2E+01	
Hydrogen Sulfide	0	-	-	na	1.8E-01	-	-	na	4.0E+00	-	-	-	-	-	-	4.0E+00	
Indeno (1,2,3-cd) pyrene ^c	0	-	-	na	-	-	-	na	-	-	-	-	-	-	-	-	
Iron	0	-	-	na	9.6E+03	-	-	na	2.1E+05	-	-	-	-	-	-	2.1E+05	
Isophorone ^c	0	-	0.0E+00	na	-	-	-	na	0.0E+00	na	-	-	-	-	-	0.0E+00	
Kepone	0	5.7E-01	5.2E+00	na	-	2.3E+02	3.2E+01	na	-	-	2.3E+02	3.2E+01	na	-	-	-	-
Lead	0	-	-	na	-	-	-	na	-	-	6.1E-01	na	-	-	-	-	-
Malathion	0	-	-	na	-	-	-	na	-	-	-	-	-	-	-	-	-
Manganese	0	-	-	na	-	-	-	na	-	-	-	-	-	-	-	-	-
Mercury	0	1.4E-00	7.7E-01	-	--	5.6E+00	4.7E+00	--	-	-	5.6E+00	4.7E+00	--	-	-	1.8E+04	
Methyl Bromide	0	-	-	na	1.5E+03	-	-	na	1.8E+04	-	-	-	-	-	-	1.8E+04	
Methylene Chloride ^c	0	-	-	na	5.9E+03	-	-	na	1.3E+05	-	-	-	-	-	-	1.3E+05	
Methoxychlor	0	-	3.0E-02	na	-	-	-	na	1.9E-01	-	-	-	-	-	-	1.8E-01	
Mirex	0	-	0.0E+00	na	-	-	-	na	0.0E+00	na	-	-	-	-	-	0.0E+00	
Nickel	0	1.1E-02	1.1E+01	na	4.6E+03	4.5E+02	6.6E+01	na	5.4E+04	-	-	4.5E+02	6.6E+01	na	-	5.4E+04	
Nitrate (as N)	0	-	-	na	-	-	-	na	-	-	-	-	-	-	-	-	-
Nitrobenzene	0	-	-	na	6.9E-02	-	-	na	8.1E-03	-	-	-	-	-	-	8.1E-03	
N-Nitrosodimethylamine ^c	0	-	-	na	3.0E+01	-	-	na	6.6E+02	-	-	-	-	-	-	6.6E+02	
N-Nitrosodiphenylamine ^c	0	-	-	na	6.0E+01	-	-	na	1.3E+03	-	-	-	-	-	-	1.3E+03	
N-Nitrosodipropylamine ^c	0	-	-	na	5.1E+00	-	-	na	1.1E+02	-	-	-	-	-	-	1.1E+02	
Nonyphenol	0	2.8E+01	6.6E+00	-	-	1.1E+02	4.0E+01	na	-	-	-	1.1E+02	4.0E+01	na	-	-	-
Parathion	0	6.5E-02	1.3E+02	na	-	2.6E+01	3.0E+02	na	-	-	2.6E+01	3.0E+02	na	-	-	-	-
PCB Total ^c	0	-	-	na	1.4E+02	na	6.4E-04	-	8.6E-02	na	1.4E-02	-	-	-	-	8.6E-02	
Pentachlorophenol ^c	0	6.1E+00	4.7E+00	na	3.0E+01	2.4E+01	2.9E+01	na	6.6E+02	-	-	-	2.4E+01	2.9E+01	na	6.6E+02	
Phenol	0	-	-	na	8.6E+05	-	-	na	1.0E+07	-	-	-	-	-	-	1.0E+07	
Pyrene	0	-	-	na	4.0E+03	-	-	na	4.7E+04	-	-	-	-	-	-	4.7E+04	
Radionuclides	0	-	-	na	-	-	-	na	-	-	-	-	-	-	-	-	-
Gross Alpha Activity (pCi/L)	0	-	-	na	-	-	-	na	-	-	-	-	-	-	-	-	-
Beta and Photon Activity (mrem/yr)	0	-	-	na	4.0E+00	-	-	na	4.7E+01	-	-	-	-	-	-	4.7E+01	
Radium 226 + 228 (pCi/L)	0	-	-	na	-	-	-	na	-	-	-	-	-	-	-	-	-
Uranium (ug/l)	0	-	-	na	-	-	-	na	-	-	-	-	-	-	-	-	-

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Selenium, Total Recoverable	0	2.0E+01	5.0E+00	na	4.2E+03	8.0E+01	3.1E+01	na	4.9E+04	-	-	-	-	-	-	-	8.0E+01	3.1E+01	na	4.9E+04	
Silver	0	1.3E+00	-	na	-	5.1E+00	-	na	-	-	-	-	-	-	-	-	5.1E+00	-	na	-	
Sulfate	0	-	-	na	-	-	-	na	8.8E+02	-	-	-	-	-	-	-	-	-	na	8.8E+02	
1,1,2,2-Tetrachloroethane ^c	0	-	-	na	4.0E+01	-	-	na	7.3E+02	-	-	-	-	-	-	-	-	-	na	7.3E+02	
Tetrachloroethylene ^c	0	-	-	na	3.3E+01	-	-	na	5.3E+00	-	-	-	-	-	-	-	-	-	na	5.3E+00	
Thallium	0	-	-	na	4.7E+01	-	-	na	-	-	-	-	-	-	-	-	-	-	na	7.1E+04	
Toluene	0	-	-	na	6.0E+03	-	-	na	7.1E+04	-	-	-	-	-	-	-	-	-	na	-	
Total Dissolved Solids	0	-	-	na	-	-	-	na	-	-	-	-	-	-	-	-	-	-	na	-	
Toxaphene ^c	0	7.3E+01	2.0E+04	na	2.8E+03	2.9E+00	1.2E+03	na	6.2E+02	-	-	-	-	-	-	-	2.9E+00	1.2E+03	na	6.2E+02	
Tributyltin	0	4.6E+01	7.2E+02	na	-	1.8E+00	4.4E+01	na	-	-	-	-	-	-	-	-	1.8E+00	4.4E+01	na	-	
1,2,4-Trichlorobenzene	0	-	-	na	7.0E+01	-	-	na	8.2E+02	-	-	-	-	-	-	-	-	-	na	8.2E+02	
1,1,2-Trichloroethane ^c	0	-	-	na	1.6E+02	-	-	na	3.5E+03	-	-	-	-	-	-	-	-	-	na	3.5E+03	
Trichloroethylene ^c	0	-	-	na	3.0E+02	-	-	na	6.6E+03	-	-	-	-	-	-	-	-	-	na	6.6E+03	
2,4,5-Trichloropheno ^c	0	-	-	na	2.4E+01	-	-	na	5.3E+02	-	-	-	-	-	-	-	-	-	na	5.3E+02	
2-(2,4,5-Trichlorophenoxy)propanoic acid (Silver)	0	-	-	na	-	-	-	na	-	-	-	-	-	-	-	-	-	-	na	-	
Vinyl Chloride ^c	0	-	-	na	2.4E+01	-	-	na	5.3E+02	-	-	-	-	-	-	-	-	-	na	5.3E+02	
Zinc	0	7.2E+01	6.3E+01	na	2.6E+04	2.9E+02	3.8E+02	na	3.1E+05	-	-	-	-	-	-	-	2.9E+02	3.8E+02	na	3.1E+05	

Notes:

- All concentrations expressed as microgram/liter (ug/l), unless noted otherwise
- Discharge flow is highest monthly average or Form 2C maximum for Industries and design flow for Municipal
- Metals measured as Dissolved, unless specified otherwise
- "c" indicates a carcinogenic parameter
- Regular WLAs are mass balances (minus background concentration) using the % of stream flow entered above under Mixing Information.
- Antidegradation WLAs are based upon a complete mix.
- Antidegradation Baseline = $(0.25 \times \text{WQC} - \text{background conc.}) + \text{background conc.}$, for acute and chronic
- = $(0.1 \times \text{WQC} - \text{background conc.} + \text{background conc.})$ for human health
- WLAs established at the following stream flows: 1Q10 for Acute, 3Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 3Q15 for Non-carcinogens and Harmonic Mean for Carcinogens. To apply mixing ratios from a model set the stream flow equal to 1 and 100% mix.

Note: do not use QL's lower than the minimum QL's provided in agency guidance

Metal	Target Value (SSTV)
Antimony	7.5E+03
Arsenic	5.4E+02
Barium	na
Cadmium	2.3E+00
Chromium III	1.5E+02
Chromium VI	2.6E+01
Copper	1.2E+01
Iron	na
Lead	1.9E+01
Manganese	na
Mercury	2.2E+00
Nickel	3.9E+01
Selenium	1.8E+01
Silver	2.0E+00
Zinc	1.1E+02

12/7/2009 11:14:44 PM

Facility = Farmville Advanced WWTP 001

Chemical = TRC

Chronic averaging period = 4

WL_{Aa} = 76

WL_{Ac} = 67

Q.L. = 100

samples/mo. = 1

samples/wk. = 1

Summary of Statistics:

observations = 1

Expected Value = 1000

Variance = 360000

C.V. = 0.6

97th percentile daily values = 2433.41

97th percentile 4 day average = 1663.79

97th percentile 30 day average= 1206.05

< Q.L. = 0

Model used = BPJ Assumptions, type 2 data

A limit is needed based on Acute Toxicity

Maximum Daily Limit = 76

Average Weekly limit = 76

Average Monthly LImit = 76

*Current limits
are protective.*

The data are:

1000

12/7/2009 11:09:29 PM

Facility = Farmville Advanced WWTP 001

Chemical = Copper

Chronic averaging period = 4

WLAa = 31

WLAc = 29

Q.L. = 5

samples/mo. = 1

samples/wk. = 1

Summary of Statistics:

observations = 1

Expected Value = 25

Variance = 225

C.V. = 0.6

97th percentile daily values = 60.8354

97th percentile 4 day average = 41.5947

97th percentile 30 day average= 30.1513

< Q.L. = 0

Model used = BPJ Assumptions, type 2 data

A limit is needed based on Acute Toxicity

Maximum Daily Limit = 31

Average Weekly limit = 31

Average Monthly Llimit = 31

*Current Limit
is protective.*

The data are:

12/7/2009 11:21:03 PM

Facility = Farmville Advanced WWTP 001

Chemical = Ammonia - Yearly

Chronic averaging period = 30

WL_{Aa} = 80

WL_{Ac} = 21

Q.L. = .2

samples/mo. = 1

samples/wk. = 1

Summary of Statistics:

observations = 1

Expected Value = 26.4

Variance = 250.905

C.V. = 0.6

97th percentile daily values = 64.2422

97th percentile 4 day average = 43.9240

97th percentile 30 day average= 31.8398

< Q.L. = 0

Model used = BPJ Assumptions, type 2 data

A limit is needed based on Chronic Toxicity

Maximum Daily Limit = 42.3710719617425

Average Weekly limit = 42.3710719617425

Average Monthly LImit = 42.3710719617425

The data are:

26.4

*Current limits
are protective.*

12/7/2009 11:22:53 PM

Facility = Farmville Advanced WWTP 001

Chemical = Ammonia High Flow

Chronic averaging period = 30

WL_{Aa} = 340

WL_{Ac} = 110

Q.L. = .2

samples/mo. = 1

samples/wk. = 1

Summary of Statistics:

observations = 1

Expected Value = 26.4

Variance = 250.905

C.V. = 0.6

97th percentile daily values = 64.2422

97th percentile 4 day average = 43.9240

97th percentile 30 day average= 31.8398

< Q.L. = 0

Model used = BPJ Assumptions, type 2 data

Existing units are effective.

No Limit is required for this material

The data are:

26.4

12/7/2009 11:24:57 PM

Facility = Farmville Advanced WWTP 001

Chemical = Zinc

Chronic averaging period = 30

WLAa = 290

WLAc = 380

Q.L. = 5

samples/mo. = 1

samples/wk. = 1

Summary of Statistics:

observations = 1

Expected Value = 76

Variance = 2079.36

C.V. = 0.6

97th percentile daily values = 184.939

97th percentile 4 day average = 126.448

97th percentile 30 day average= 91.6600

< Q.L. = 0

Model used = BPJ Assumptions, type 2 data

No Limit is required for this material

The data are:

12/7/2009 5:43:32 PM

Facility = Farmville Advanced WWTP 001

Chemical = Whole Effluent Toxicity

Chronic averaging period = 4

WLAA = 15.1125

WLAC = 6.1166667

Q.L. = 1

samples/mo. = 1

samples/wk. = 1

Summary of Statistics:

observations = 5

Expected Value = 2.15

Variance = 1.6641

C.V. = 0.6

97th percentile daily values = 5.23184

97th percentile 4 day average = 3.57714

97th percentile 30 day average= 2.59301

< Q.L. = 0

Model used = BPJ Assumptions, type 2 data

No Limit is required for this material

The data are:

2.5

1

1

3.125

3.125

Town of Farmville Wastewater Treatment Plant
Outfall 001 Effluent Hardness

Date	Hardness (mg/l as CaCO ₃)
6/14/2005	190
6/15/2005	192
6/17/2005	196
3/28/2006	214
3/29/2006	154
3/31/2006	200
3/20/2007	104
3/21/2007	142
3/23/2007	128
4/14/2008	156
4/15/2008	156
4/16/2008	152
4/17/2008	140
4/20/2009	120
4/21/2009	120
4/23/2009	120

155.25 Average value permit term

The above data was generated during the current permit term and was obtained from chronic Whole Effluent Toxicity Test reports. However, during the current permit term the facility upgraded the treatment plant to address pending nutrient concentration and loading limitations. The pilot test for nitrogen removal began in Fall 2006 (Phase I) and was successfully completed in May 2007.

Given the above, the review of the above hardness data appears to indicate an associated change in effluent hardness. As a result, the average hardness value used in this reissuance was limited to the below subset of data from this permit term.

Date	Hardness (mg/l as CaCO ₃)
3/20/2007	104
3/21/2007	142
3/23/2007	128
4/14/2008	156
4/15/2008	156
4/16/2008	152
4/17/2008	140
4/20/2009	120
4/21/2009	120
4/23/2009	120

133.8 Average value for upgraded plant effluent

Town of Farmville WWTP
Outfall 001 Effluent pH

Date	Effluent pH (SU)	
	Minimum	Maximum
10-Jan-2004	6.6	7.3
10-Feb-2004	6.7	7.3
10-Mar-2004	6.6	7.7
10-Apr-2004	6.1	7.2
10-May-2004	6.6	7.3
10-Jun-2004	6.7	7.2
10-Jul-2004	6.5	7.1
10-Aug-2004	6.4	7.3
10-Sep-2004	7	7.7
10-Oct-2004	6.2	7.5
10-Nov-2004	7	7.5
10-Dec-2004	6.9	7.6
10-Jan-2005	6.2	7.4
10-Feb-2005	6.5	7.4
10-Mar-2005	6.6	7.4
10-Apr-2005	6.4	7.2
10-May-2005	6.8	7.2
10-Jun-2005	6.3	7.2
10-Jul-2005	6.3	7.3
10-Aug-2005	6.7	7.4
10-Sep-2005	7	7.5
10-Oct-2005	6.8	7.3
10-Nov-2005	6.1	7.2
10-Dec-2005	6.4	7.1
10-Jan-2006	6.6	7.1
10-Feb-2006	6.3	7.3
10-Mar-2006	6.6	7.4
10-Apr-2006	6.8	7.6
10-May-2006	6.8	7.4
10-Jun-2006	6.5	7.6
10-Jul-2006	6.9	7.6
10-Aug-2006	7	7.6
10-Sep-2006	6.6	7.9
10-Oct-2006	6.8	7.6
10-Nov-2006	6.5	7.6
10-Dec-2006	6.5	7.5
10-Jan-2007	6.9	7.6
10-Feb-2007	6.7	7.7
10-Mar-2007	6.6	7.6
10-Apr-2007	7	7.7
10-May-2007	6.8	7.5
10-Jun-2007	6.8	7.4
10-Jul-2007	6.7	7.5
10-Aug-2007	6.8	7.4
10-Sep-2007	6.8	7.3

Date	Effluent pH (SU)	
	Minimum	Maximum
10-Oct-2007	6.5	7.2
10-Nov-2007	6.2	7.1
10-Dec-2007	6.4	7.1
10-Jan-2008	6.7	7.1
10-Feb-2008	6.6	7.1
10-Mar-2008	6.8	7.1
10-Apr-2008	6.7	7.1
10-May-2008	6.7	7.3
10-Jun-2008	6.5	7.1
10-Jul-2008	6.8	7.4
10-Aug-2008	7	7.3
10-Sep-2008	6.8	7.3
10-Oct-2008	6.7	7.3
10-Nov-2008	6.8	7.3
10-Dec-2008	6.5	7.1
10-Jan-2009	6.6	7.1
10-Feb-2009	6.7	7.2
10-Mar-2009	6.9	7.4
10-Apr-2009	6.8	7.3
10-May-2009	6.8	7.6
10-Jun-2009	6.8	7.3
10-Jul-2009	6.7	7.4
10-Aug-2009	6.8	7.6
10-Sep-2009	7	7.5
10-Oct-2009	7	7.6
10-Nov-2009	6.6	7.4

 equal to or <6.5 SU

The below %tile data were generated using 2007 to present reported pH values.

90th % =	7.51
10th % =	6.6

Town of Farmville Wastewater Treatment Plant
Effluent BOD₅ Data (December-April)

Date	BOD ₅ (kg/Day)		BOD ₅ (mg/l)	
	Monthly Avg.	Weekly Avg.	Monthly Avg.	Weekly Avg.
09-Jan-2002	8.5872	9.4681	2.5226	2.8714
11-Feb-2002	10.4723	13.4548	3	3.3286
11-Mar-2002	14.2601	11.4143	4	3.1143
11-Apr-2002	19.048	29.14	5.074	6.357
10-May-2002	11.532	13.012	3.204	3.52
13-Jan-2003	9.949	11.054	2.78	3.3
14-Feb-2003	10.611	11.192	3.1	3.5
11-Mar-2003	13.388	13.989	3.15	3.4
11-Apr-2003	14.651	19.711	3.625	4.7
09-May-2003	26.944	63.9	4.84	7.9
09-Jan-2004	16.715	35.809	4.14	8.1
06-Feb-2004	12.135	13.79	3.325	4.4
09-Mar-2004	23.671	32.106	5.575	7.5
09-Apr-2004	17.188	18.727	4.54	5.7
10-May-2004	13.341	21.311	3.5	5.1
11-Jan-2005	10.304	12.282	2.3	2.4
09-Feb-2005	10.962	13.132	2.45	2.8
10-Mar-2005	14.014	15.412	2.904	3.214
11-Apr-2005	31.562	21.389	5.07	4.643
10-May-2005	28.481	22.524	5.1	4.543
11-Jan-2006	12.997	16.948	2.381	2.857
13-Feb-2006	<10.678	12.205	<2.010	2.4
13-Mar-2006	14.765	14.745	2.718	2.729
11-Apr-2006	12.662	<13.194	<2.597	<3.071
09-May-2006	<18.107	21.144	<3.427	4.071
10-Jan-2007	<14.8237	17.8476	<2.732	3.243
12-Feb-2007	28.419	13.24	3.584	2.386
09-Mar-2007	36.889	71.952	6.846	13.243
10-Apr-2007	43.256	106.048	5.723	10.671
09-May-2007	82.7879	175.9335	11.8	19.7
10-Jan-2008	13.648	17.185	3.116	3.529
08-Feb-2008	11.452	16.521	2.652	3.686
10-Mar-2008	10.676	9.366	2.234	2.028
08-Apr-2008	21.04	20.007	3.981	3.957
09-May-2008	54.726	50.413	7.743	7.957
08-Jan-2009	34.713	95.349	5.558	11.529
09-Feb-2009	15.44	21.7814	3.23	4.2714
09-Mar-2009	23.3	33.67	4.94	7.33
09-Apr-2009	130.229	159.748	21.707	27.957
08-May-2009	16.237	15.641	3.2	2.052

Limits 100 150 25.0 37.5

Exceeds Limitation

Town of Farmville Wastewater Treatment Plant
Effluent BOD₅ Data (May-November)

Date
12-Jul-2002
12-Aug-2002
12-Sep-2002
09-Oct-2002
07-Nov-2002
11-Dec-2002
12-Jun-2003
09-Jul-2003
11-Aug-2003
10-Sep-2003
07-Oct-2003
12-Nov-2003
09-Dec-2003
08-Jun-2004
12-Jul-2004
10-Aug-2004
10-Sep-2004
08-Oct-2004
05-Nov-2004
08-Dec-2004
10-Jun-2005
11-Jul-2005
10-Aug-2005
12-Sep-2005
11-Oct-2005
08-Nov-2005
09-Dec-2005
12-Jun-2006
11-Jul-2006
11-Aug-2006
11-Sep-2006
11-Oct-2006
13-Nov-2006
11-Dec-2006
08-Jun-2007
10-Jul-2007
10-Aug-2007
11-Sep-2007
10-Oct-2007
13-Nov-2007
10-Dec-2007
10-Jun-2008
08-Jul-2008
08-Aug-2008

BOD ₅ (kg/Day)	
Monthly Avg.	Weekly Avg.
9.046	10.994
<9.634	15.534
12.4	18.25
9.165	9.803
11.036	12.451
14.428	18.422
14.348	18.058
13.209	13.777
11.757	12.603
9.05	10.267
12.787	22.103
10.88	13.74
11.244	16.201
11.279	13.86
12.509	15.836
10.922	13.95
14.007	20.803
11.88	14.128
10.696	15.397
13.333	21.759
20.568	23.593
<13.830	16.366
13.567	14.691
<14.116	15.543
13.756	13.966
10.673	11.925
13.568	14.162
16.4199	20.1564
10.612	11.242
11.493	13.655
13.27	17.885
<15.673	22.868
34.081	57.927
36.1225	59.5257
16.4824	17.3617
16.783	18.652
11.841	12.972
16.028	16.731
12.792	15.093
21.047	51.431
13.74	15.895
36.211	75.529
9.974	11.746
9.6755	10.4354

BOD ₅ (mg/l)	
Monthly Avg.	Weekly Avg.
3.025	3.7
<3.14	4.8
3.85	5.2
2.6	2.8
2.74	3.2
2.775	3.1
3.425	4.2
3.35	3.6
3	3.3
3.175	3.4
3.45	5.2
3.26	4.5
3.2	4.1
3.05	3.4
3.34	4.3
2.625	3.6
3.48	5.3
2.475	2.6
2.525	3.6
2.74	3.9
4.768	5.643
<3.303	3.771
3.039	3.229
<3.174	<3.443
2.84	2.957
2.255	2.543
2.733	2.857
3.3194	3.9143
2.26	2.571
3.068	2.857
2.723	3.829
<2.707	4.271
3.994	5.643
4.477	6.9
3.3096	3.5857
3.6	4
2.581	3.029
3.252	3.614
2.477	3.029
3.69	7.886
2.94	3.214
5.684	11.143
2.27	2.657
2.2	2.4143

Town of Farmville Wastewater Treatment Plant
Effluent BOD₅ Data (May-November)

Date
10-Sep-2008
09-Oct-2008
10-Nov-2008
09-Dec-2008
08-Jun-2009
09-Jul-2009
10-Aug-2009
10-Sep-2009
08-Oct-2009
09-Nov-2009

BOD ₅ (kg/Day)	
Monthly Avg.	Weekly Avg.
33.294	116.901
32.588	14.593
13.014	14.888
25.308	46.588
13.369	14.969
12.293	12.468
11.095	14.325
13.25	16.548
11.059	14.813
9.882	11.353

BOD ₅ (mg/l)	
Monthly Avg.	Weekly Avg.
4.803	14.314
4.2	4.314
2.645	3.086
4.937	7.914
3.113	3.671
2.537	2.371
2.5	3.286
2.7	3.043
2.213	2.886
2.058	2.429

Permit Limits =

100

150

11

16.5

Town of Farmville Wastewater Treatment Plant
Effluent TSS Data (December-April)

Date	TSS (kg/Day)		TSS (mg/l)	
	Monthly Avg.	Weekly Avg.	Monthly Avg.	Weekly Avg.
10-Jan-2002	3.1305	3.3265	0.9258	1
10-Feb-2002	5.0082	7.0084	1.4258	1.7286
10-Mar-2002	5.6685	6.0697	1.5786	1.7143
10-Apr-2002	19.119	44.006	4.716	8.571
10-May-2002	5.257	5.628	1.44	1.471
10-Jan-2003	4.826	6.03	1.34	1.8
10-Feb-2003	4.824	4.361	1.4	1.4
10-Mar-2003	5.795	7.869	1.35	1.8
10-Apr-2003	4.544	6.306	1.1	1.4
10-May-2003	24.597	80.886	3.96	10
10-Jan-2004	11.678	35.367	2.783	8
10-Feb-2004	11.686	21.311	3.325	6.8
10-Mar-2004	20.653	35.67	4.825	7.6
10-Apr-2004	11.71	16.011	3.08	4.5
10-May-2004	3.611	4.653	0.975	1.4
10-Jan-2005	3.684	6.141	0.8	1.2
10-Feb-2005	3.494	5.35	0.775	1.1
10-Mar-2005	4.077	3.712	0.836	0.771
10-Apr-2005	45.288	15.819	5.384	2.771
10-May-2005	34.049	15.217	5.22	2.857
10-Jan-2006	5	11.678	0.781	1.4
10-Feb-2006	3.54	4.027	0.661	0.743
10-Mar-2006	4.624	3.758	0.846	0.7
10-Apr-2006	5.198	7.783	1.042	1.557
10-May-2006	6.553	7.926	1.243	1.457
10-Jan-2007	9.281	5.64	1.729	1.657
10-Feb-2007	26.435	6.216	2.687	1.114
10-Mar-2007	45.318	94.322	8.32	17.143
10-Apr-2007	49.209	151.636	5.632	13.9
10-May-2007	113.949	274.161	17.81	46.071
10-Jan-2008	8.857	14.697	1.836	3
10-Feb-2008	5.224	9.365	1.213	2.014
10-Mar-2008	8.529	10.058	1.652	2.086
10-Apr-2008	31.693	68.022	5.465	10.157
10-May-2008	284.685	135.387	34.47	20.714
10-Jan-2009	65.275	164.284	10.787	20.843
10-Feb-2009	15.66	22.4928	3.23	4.5571
10-Mar-2009	26.9	51.81	5.76	11.34
10-Apr-2009	357.432	969.495	58.539	136.1
10-May-2009	8.586	9.922	1.693	2.057

Permit Limits =

227

341

25

37.5

 = permit exceedence

Town of Farmville Wastewater Treatment Plant
Effluent TSS Data (May-November)

Date
10-Jun-2002
10-Jun-2002
10-Jul-2002
10-Aug-2002
10-Sep-2002
10-Oct-2002
10-Nov-2002
10-Dec-2002
10-Jun-2003
10-Jul-2003
10-Aug-2003
10-Sep-2003
10-Oct-2003
10-Nov-2003
10-Dec-2003
10-Jun-2004
10-Jul-2004
10-Aug-2004
10-Sep-2004
10-Oct-2004
10-Nov-2004
10-Dec-2004
10-Jun-2005
10-Jul-2005
10-Aug-2005
10-Sep-2005
10-Oct-2005
10-Nov-2005
10-Dec-2005
10-Jun-2006
10-Jul-2006
10-Aug-2006
10-Sep-2006
10-Oct-2006
10-Nov-2006
10-Dec-2006
10-Jun-2007
10-Jul-2007
10-Aug-2007
10-Sep-2007
10-Oct-2007
10-Nov-2007
10-Dec-2007
10-Jun-2008
10-Jul-2008

TSS (kg/Day)	
Monthly Avg.	Weekly Avg.
3.74	4.922
3.74	4.922
2.687	3.77
1.708	2.589
1.735	2.341
1.84	2.801
4.704	6.042
9.958	19.61
17.164	48.618
7.074	8.552
6.56	7.978
2.494	2.774
21.318	74.81
3.878	4.996
3.667	6.488
6.404	16.129
5.238	7.304
7.215	20.242
4.922	9.42
12.324	26.56
2.762	3.177
5.486	15.064
17.794	24.332
5.147	5.394
5.006	10.219
3.449	3.902
4.988	6.693
3.67	5.786
4.755	4.977
6.4428	7.5282
2.801	2.823
2.605	3.255
3.39	3.319
6.442	9.404
39.963	86.55
110.1349	177.7945
9.5526	14.0819
6.455	9.371
4.723	5.944
9.937	25.57
3.671	4.282
40.763	149.816
5.184	6.504
78.608	176.641
4.693	7.275

TSS (mg/l)	
Monthly Avg.	Weekly Avg.
1.171	1.5
1.171	1.5
0.9	1.3
0.56	0.8
0.55	0.8
0.525	0.8
1.12	1.7
1.9	3.3
3.05	7
1.775	2.2
1.66	1.8
0.875	1
5.175	17.6
1.14	1.5
1.075	2
1.725	4.3
1.4	1.6
1.45	3.5
1.2	2.4
2.4	4.7
0.65	0.7
1.08	2.7
4.07	5.543
1.213	1.243
1	1.8
0.774	0.871
1.03	1.343
0.745	0.986
0.953	1
1.3097	1.4714
0.5833	0.6429
0.548	0.686
0.658	0.729
1.02	1.6
3.965	7.957
11.4	21.1571
1.874	2.857
1.387	1.986
1.013	1.3
1.9	4.686
0.703	0.8
6.126	20.971
1.097	1.314
11.465	36.229
1.073	1.714

Town of Farmville Wastewater Treatment Plant
Effluent TSS Data (May-November)

Date
10-Aug-2008
10-Sep-2008
10-Oct-2008
10-Nov-2008
10-Dec-2008
10-Jun-2009
10-Jul-2009
10-Aug-2009
10-Sep-2009
10-Oct-2009
10-Nov-2009

TSS (kg/Day)	
Monthly Avg.	Weekly Avg.
2,934	3,375
20.13	78.831
173,086	73,022
9.399	13,113
42,603	91,874
18,815	23,402
18,262	22,377
7,131	6,323
6,185	8,011
6,898	8,237
4,825	8,233

TSS (mg/l)	
Monthly Avg.	Weekly Avg.
0.687	0.786
2.839	10.243
17.183	6.8
1.874	2,657
8.13	14,957
4.358	5.7
3.693	4.3
1.626	1,457
1.223	1,743
1.383	1.6
0.987	1,729

Permit Limits = 100 150 11 16.5

 = limit exceedence

Town of Farmville Wastewater Treatment Plant
Effluent DO (mg/l)

Date	Minimum DO (Dec-Apr)	Date	Minimum DO (May-Nov)
09-Jan-2002	8.3	10-Jun-2004	7.3
11-Feb-2002	9	10-Jul-2004	7.1
11-Mar-2002	9.1	10-Aug-2004	6.7
11-Apr-2002	9.2	10-Sep-2004	7
10-May-2002	8.2	10-Oct-2004	7.1
13-Jan-2003	9.3	10-Nov-2004	7.9
14-Feb-2003	10	10-Dec-2004	7.8
11-Mar-2003	9.9	10-Jun-2005	8.3
11-Apr-2003	9.1	10-Jul-2005	7.8
09-May-2003	8.5	10-Aug-2005	7.1
09-Jan-2004	8.7	10-Sep-2005	7.2
06-Feb-2004	9	10-Oct-2005	7.3
09-Mar-2004	8.6	10-Nov-2005	7.4
09-Apr-2004	8.7	10-Dec-2005	8.7
10-May-2004	8.4	10-Jun-2006	8.1
11-Jan-2005	8.5	10-Jul-2006	7.2
09-Feb-2005	8.1	10-Aug-2006	7.1
10-Mar-2005	8.8	10-Sep-2006	7.2
11-Apr-2005	9	10-Oct-2006	7.5
10-May-2005	9	10-Nov-2006	8.1
11-Jan-2006	9.9	10-Dec-2006	9.2
13-Feb-2006	10	10-Jun-2007	7.9
13-Mar-2006	9.9	10-Jul-2007	7.2
11-Apr-2006	9.3	10-Aug-2007	7.2
09-May-2006	8.7	10-Sep-2007	6.8
10-Jan-2007	7.9	10-Oct-2007	7.2
12-Feb-2007	8.9	10-Nov-2007	7.3
09-Mar-2007	9.3	10-Dec-2007	8.9
10-Apr-2007	7.9	10-Jun-2008	8.1
09-May-2007	8	10-Jul-2008	7.5
10-Jan-2008	9.3	10-Aug-2008	6.8
08-Feb-2008	10.1	10-Sep-2008	7
10-Mar-2008	10	10-Oct-2008	6.3
08-Apr-2008	9.5	10-Nov-2008	7.8
09-May-2008	8.4	10-Dec-2008	8.5
08-Jan-2009	9.4	10-Jun-2009	8.1
09-Feb-2009	10.3	10-Jul-2009	7.6
09-Mar-2009	9.9	10-Aug-2009	7.3
09-Apr-2009	9.2	10-Sep-2009	7
08-May-2009	8.3	10-Oct-2009	7.6
		10-Nov-2009	7.9

Limits (minimum)

6.5

5.0

**Town of Farmville Wastewater Treatment Plant
Outfall 001 Effluent Ammonia December - April**

Date	Ammonia (mg/l)	
	Weekly Avg	Maximum
09-Jan-2004	0.1	0.1
06-Feb-2004	0.2	0.2
09-Mar-2004	0.9	0.9
09-Apr-2004	0.2	0.2
10-May-2004	0.3	0.3
11-Jan-2005	0.8	0.8
09-Feb-2005	0.6	0.6
10-Mar-2005	<0.2	0.4
11-Apr-2005	<1.3	5.4
10-May-2005	<0.125	0.2
11-Jan-2006	<0.1	0.1
13-Feb-2006	<0.1	<0.1
13-Mar-2006	<0.1	<0.1
11-Apr-2006	<0.125	0.2
09-May-2006	<0.1	<0.1
10-Jan-2007	<0.2	<0.3
12-Feb-2007	<1.40	3.4
09-Mar-2007	0.375	1
10-Apr-2007	<0.173	0.29
09-May-2007	2.46	6.9
10-Jan-2008	0.4738	1.5
08-Feb-2008	0.2778	0.35
10-Mar-2008	0.36	0.72
08-Apr-2008	1.054	3
09-May-2008	0.66	1.4
08-Jan-2009	0.472	0.93
09-Feb-2009	0.56	0.68
09-Mar-2009	1.13	1.8
09-Apr-2009	14.375	26.4
08-May-2009	0.514	1.3

Limit = 15.6 wkly avg., 23.5 Mtly Max

 Exceeds limitation

Town of Farmville Wastewater Treatment Plant
Outfall 001 Effluent Ammonia May - November

Date	Ammonia (mg/l)	
	Weekly Avg	Maximum
10-Sep-2003	0.4	0.4
10-Oct-2003	0.1	0.1
10-Nov-2003	0.3	0.3
10-Dec-2003	0.1	0.1
10-Jun-2004	0.2	0.2
10-Jul-2004	0.1	0.1
10-Aug-2004	0.1	0.1
10-Sep-2004	0.1	0.1
10-Oct-2004	<0.1	<0.1
10-Nov-2004	<0.1	<0.1
10-Dec-2004	<0.2	<0.2
10-Jun-2005	0.15	0.2
10-Jul-2005	<0.25	0.6
10-Aug-2005	<1.50	<1.50
10-Sep-2005	<0.1	<0.1
10-Oct-2005	<0.1	<0.1
10-Nov-2005	<0.1	<0.1
10-Dec-2005	<0.1	<0.1
10-Jun-2006	0.3	0.3
10-Jul-2006	<0.1	0.1
10-Aug-2006	0.1	0.1
10-Sep-2006	0.8	3.6
10-Oct-2006	<0.125	0.2
10-Nov-2006	<0.675	2.4
10-Dec-2006	<0.1	0.1
10-Jun-2007	0.214	0.28
10-Jul-2007	0.223	0.28
10-Aug-2007	0.26	0.46
10-Sep-2007	0.22	0.26
10-Oct-2007	0.325	1.2
10-Nov-2007	0.209	0.26
10-Dec-2007	0.3343	0.69
10-Jun-2008	0.793	2.5
10-Jul-2008	0.223	0.27
10-Aug-2008	0.516	1.2
10-Sep-2008	0.408	0.88
10-Oct-2008	1.155	2.5
10-Nov-2008	0.47	0.87
10-Dec-2008	0.48	1.1
10-Jun-2009	0.248	0.36
10-Jul-2009	0.785	2.01
10-Aug-2009	0.2	0.2
10-Sep-2009	0.2	0.2
10-Oct-2009	0.21	0.26
10-Nov-2009	0.2	0.2

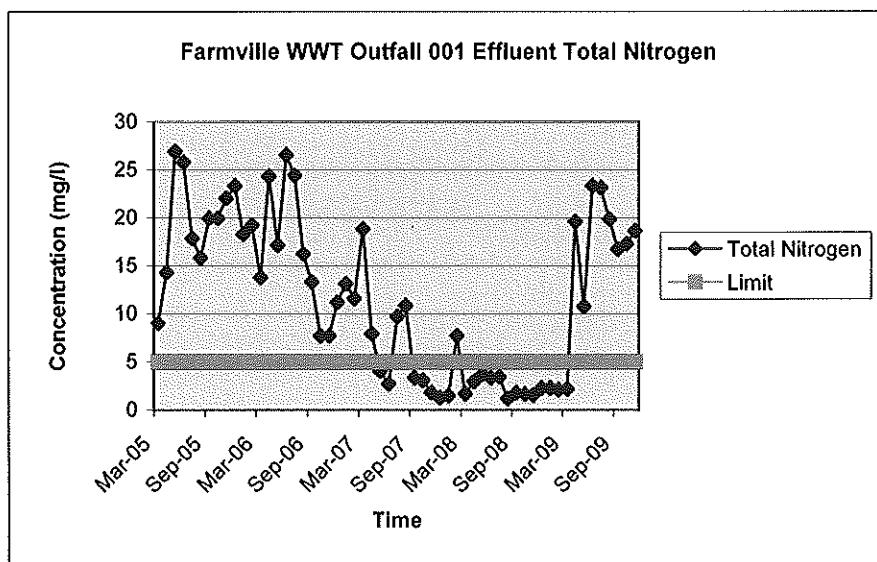
Limit = 5.9 wkly avg., 8.9 Mtly Max

Town of Farmville Wastewater Treatment Plant
Outfall 001 Effluent Total Nitrogen

Date	Total Nitrogen Mtly Avg. (mg/l)
10-Mar-2005	9.033
10-Apr-2005	14.3
10-May-2005	26.925
10-Jun-2005	25.8
10-Jul-2005	17.86
10-Aug-2005	15.85
10-Sep-2005	19.96
10-Oct-2005	19.975
10-Nov-2005	22.05
10-Dec-2005	23.32
10-Jan-2006	18.3
10-Feb-2006	19.225
10-Mar-2006	13.8
10-Apr-2006	24.325
10-May-2006	17.125
10-Jun-2006	26.58
10-Jul-2006	24.45
10-Aug-2006	16.25
10-Sep-2006	13.32
10-Oct-2006	7.725
10-Nov-2006	7.75
10-Dec-2006	11.21
10-Jan-2007	13.15
10-Feb-2007	11.6
10-Mar-2007	18.85
10-Apr-2007	7.95
10-May-2007	4.055
10-Jun-2007	2.733
10-Jul-2007	9.73
10-Aug-2007	10.86
10-Sep-2007	3.373
10-Oct-2007	3.084
10-Nov-07	1.821
10-Dec-07	1.3143
10-Jan-08	1.4963
10-Feb-08	7.72
10-Mar-08	1.688
10-Apr-08	2.98
10-May-08	3.72

Date	Total Nitrogen Mtly Avg. (mg/l)
10-Jun-08	3.365
10-Jul-08	3.468
10-Aug-08	1.2
10-Sep-08	1.81
10-Oct-08	1.683
10-Nov-08	1.56
10-Dec-08	2.313
10-Jan-09	2.292
10-Feb-09	2.14
10-Mar-09	2.21
10-Apr-09	19.6
10-May-09	10.778
10-Jun-09	23.343
10-Jul-09	23.13
10-Aug-09	19.88
10-Sep-09	16.725
10-Oct-09	17.26
10-Nov-09	18.625

Permit Limit = 5.0
Effective 1/1/2011



Town of Farmville Wastewater Treatment Plant
Outfall 001 Effluent Total Recoverable Copper

Date	Weekly Avg. (ug/l)	Monthly Avg. (ug/l)
10-Mar-2005	6	6
10-Apr-2005	19	19
10-May-2005	3	3
10-Jun-2005	15	15
10-Jul-2005	14	14
10-Sep-2005	11	11
10-Oct-2005	21	21
10-Nov-2005	15	15
10-Dec-2005	20	20
10-Jan-2006	9	9
10-Feb-2006	11	11
10-Mar-2006	19	19
10-Apr-2006	20	20
10-May-2006	12	12
10-Jun-2006	19.667	34
10-Jul-2006	23	23
10-Aug-2006	13	13
10-Sep-2006	16	16
10-Oct-2006	11	11
10-Nov-2006	12	12
10-Dec-2006	12	12
10-Jan-2007	11	11
10-Feb-2007	15	15
10-Mar-2007	19	19
10-Apr-2007	17	17
10-May-2007	20	20
10-Jun-2007	9	9
10-Jul-2007	10	10
10-Aug-2007	17	26
10-Sep-2007	10	10
10-Oct-2007	10	10
10-Nov-2007	12	12
10-Jan-2008	19	19
10-Feb-2008	9	9
10-Mar-2008	9	9
10-Apr-2008	14	14
10-May-2008	12	12
10-Jun-2008	11	11
10-Jul-2008	5	5

Limit is 23 ug/l

 = Exceeds Limit

 = Equal to limit

Town of Farmville Wastewater Treatment Plant
Biosolids (Sludge) Reporting

Sludge Production

Date	Dry Metric Tons
2006	260
2007	221.61
" " 2008	211.5
" " 2006	268.84
" " 2007	369.18
" " 2008	211.5

Land Applied

Parameter

	% Solids	Arsenic	Cadmium	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Zinc
10-Jan-2006	6.17	2.87	2.3	709	81	1.74	21	39	5.28	886
19-Feb-2007	6.65	2.6	2	872	59	2.5	19	55	7.1	1027
10-Feb-2008	4.66	3.5	1.4	756	40	1.6	17	59	7.1	863
10-Feb-2009	3.1	3.7	1.4	693	28	2.6	17	49	13	771

Ceiling Conc Max

Limits = NA 75 85 4300 840 57 75 420 100 7500

Cumulative Loading Max (kg/ha)

NA 41 39 1500 300 17 NA 420 100 2800

Note: Values are expressed in mg/kg unless otherwise noted

Town of Farmville WWTP Groundwater Monitoring Data

Parameter	Period	MW-1	MW-2
Water Level	1st Otr 2001	10.33	16.09
	2nd Qtr 2001	10.28	12.69
	3rd Otr 2001	12.72	10.2
	4th Qtr 2001	15.2	11.7
	1st Otr 2002	14	12.2
	2nd Qtr 2002	14	12.2
	3rd Otr 2002	14.6	12.2
	1st Otr 2003	13	19.2
	2nd Qtr 2003	13.5	19.5
	3rd Otr 2003	15	20.4
	4th Qtr 2003	10.6	8.8
	1st Otr 2004	15.3	20.9
	2nd Qtr 2004	14.8	20
	3rd Otr 2004	10.8	12.1
	1st Semi 05	10.5	8.7
	2nd Semi 05	13.5	12.4
	1st Semi 06	12.6	10.6
	2nd Semi 06	12	16.7
	1st Semi 07	301.03	302.58
	2nd Semi 07	14.56	12.61
	1st Semi 08	11.18	9.01
	2nd Semi 08	13.81	10.55
pH	1st Otr 2001	6.04	5.68
	2nd Qtr 2001	5.91	6.24
	3rd Otr 2001	6.05	5.87
	4th Qtr 2001	6.11	5.28
	1st Otr 2002	6.4	6.02
	2nd Qtr 2002	6.2	5.8
	3rd Otr 2002	6.06	5.8
	1st Otr 2003	6.2	5.8
	2nd Qtr 2003	6.4	6.2
	3rd Otr 2003	6.18	5.96
	4th Qtr 2003	6.2	6
	1st Otr 2004	6.3	6.17
	2nd Qtr 2004	6.2	6.1
	3rd Otr 2004	6.2	6.2
	1st Semi 05	6.3	6.4
	2nd Semi 05	6.3	6.2
	1st Semi 06	6.4	6.4
	2nd Semi 06	6.4	6.25
	1st Semi 07	6.27	6.53
	2nd Semi 07	6.2	6.05
	1st Semi 08	6.22	6.07
	2nd Semi 08	6.27	6.11

Town of Farmville WWTP Groundwater Monitoring Data			
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Parameter	Period	MW-1	MW-2
Chlorides	1st Otr 2001	30	20
	2nd Qtr 2001	20	40
	3rd Otr 2001	31.69	25.3
	4th Qtr 2001	24.91	21.25
	1st Otr 2002	23.19	25.45
	2nd Qtr 2002	27	34
	3rd Otr 2002	34.47	28.09
	1st Otr 2003	29.41	12.62
	2nd Qtr 2003	<1	19.98
	3rd Otr 2003	29	20
	4th Qtr 2003	30	23
	1st Otr 2004	29	19
	2nd Qtr 2004	36	29
	3rd Otr 2004	32	24
	1st Semi 05	35	13
	2nd Semi 05	30	24
	1st Semi 06	33	11
	2nd Semi 06	36	29
	1st Semi 07	35	14
	2nd Semi 07	39	22
	1st Semi 08	37	17
	2nd Semi 08	41	21
Spec. Conduct.	1st Otr 2001	660	273
	2nd Qtr 2001	300	670
	3rd Otr 2001	598	245
	4th Qtr 2001	621	263
	1st Otr 2002	823	319
	2nd Qtr 2002	777	313
	3rd Otr 2002	713	305
	1st Otr 2003	781	339
	2nd Qtr 2003	685	345
	3rd Otr 2003	456	197
	4th Qtr 2003	593	336
	1st Otr 2004	852	347
	2nd Qtr 2004	785	260
	3rd Otr 2004	710	348
	1st Semi 05	745	285
	2nd Semi 05	635	302
	1st Semi 06	428	192
	2nd Semi 06	429	178.25
	1st Semi 07	812	404
	2nd Semi 07	787	363
	1st Semi 08	779	335
	2nd Semi 08	745	358

Town of Farmville WWTP Groundwater Monitoring Data

Parameter	Period	MW-1	MW-2
TOC	1st Otr 2001	8.06	1.93
	2nd Qtr 2001	1.92	8.09
	3rd Otr 2001	27	17.4
	4th Qtr 2001	4.6	9.3
	1st Otr 2002	9.2	9.5
	2nd Qtr 2002	15	13
	3rd Otr 2002	10	15
	1st Otr 2003	11	3
	2nd Qtr 2003	8	3
	3rd Otr 2003	11.3	5.6
	4th Qtr 2003	39.9	8.3
	1st Otr 2004	10.8	3.5
	2nd Qtr 2004	9.2	4.1
	3rd Otr 2004	7.4	6.5
	1st Semi 05	10.2	5.7
	2nd Semi 05	18.4	7.4
	1st Semi 06	7.1	22
	2nd Semi 06	19	22.4
	1st Semi 07	6.29	2.02
	2nd Semi 07	5.63	2.02
	1st Semi 08	6.83	2.16
	2nd Semi 08	7.1	2.25
Fecal Coliform	1st Otr 2001	<2	<2
	2nd Qtr 2001	<2	<2
	3rd Otr 2001	<2	2
	4th Qtr 2001	<2	<2
	1st Otr 2002	<2	<2
	2nd Qtr 2002	<2	<2
	3rd Otr 2002	<2	<2
	1st Otr 2003	<2	<2
	2nd Qtr 2003	<2	<2
	3rd Otr 2003	<2	<2
	4th Qtr 2003	<2	<2
	1st Otr 2004	<2	<2
	2nd Qtr 2004	4	<2
	3rd Otr 2004	<2	<2
	1st Semi 05	<2	<2
	2nd Semi 05	<2	<2
	1st Semi 06	<2	<2
	2nd Semi 06	<2	<2
	1st Semi 07	10	<1
	2nd Semi 07	<1	<1
	1st Semi 08	<1	<1
	2nd Semi 08	<1	<1

Town of Farmville WWTP Groundwater Monitoring Data			
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Parameter	Period	MW-1	MW-2
T. Phos.	1st Otr 2001	1.2	0.64
	2nd Qtr 2001	0.47	1.3
	3rd Otr 2001	0.26	0.64
	4th Qtr 2001	0.28	0.27
	1st Otr 2002	0.04	0.07
	2nd Qtr 2002	0.47	0.077
	3rd Otr 2002	0.49	0.91
	1st Otr 2003	0.68	0.42
	2nd Qtr 2003	0.44	0.18
	3rd Otr 2003	0.13	0.11
	4th Qtr 2003	0.17	0.11
	1st Otr 2004	0.19	0.11
	2nd Qtr 2004	0.46	0.12
	3rd Otr 2004	0.11	0.18
	1st Semi 05	0.03	0.16
	2nd Semi 05	0.1	0.07
	1st Semi 06	0.11	0.26
	2nd Semi 06	0.18	0.36
	1st Semi 07	<0.05	<0.05
	2nd Semi 07	<0.05	<0.05
	1st Semi 08	0.05	0.05
	2nd Semi 08	<0.05	<0.05
Ammonia Nitrogen	1st Otr 2001	0.7	0.3
	2nd Qtr 2001	0.2	1
	3rd Otr 2001	2.2	1
	4th Qtr 2001	1.6	0.4
	1st Otr 2002	1.4	0.7
	2nd Qtr 2002	0.2	1
	3rd Otr 2002	1	0.2
	1st Otr 2003	1.4	0.2
	2nd Qtr 2003	1.1	0.3
	3rd Otr 2003	1.4	0.3
	4th Qtr 2003	1.5	0.3
	1st Otr 2004	1.3	0.6
	2nd Qtr 2004	1.2	0.2
	3rd Otr 2004	0.7	0.2
	1st Semi 05	2	0.6
	2nd Semi 05	1.4	0.4
	1st Semi 06	1.4	0.5
	2nd Semi 06	1.6	0.3
	1st Semi 07	1.6	0.59
	2nd Semi 07	1.2	0.29
	1st Semi 08	1.3	0.24
	2nd Semi 08	1.3	0.22

Town of Farmville WWTP Groundwater Monitoring Data			
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Parameter	Period	MW-1	MW-2
Nitrate Nitrogen	1st Otr 2001	<1	<1
	2nd Qtr 2001	<1	1.9
	3rd Otr 2001	0.1	<0.1
	4th Qtr 2001	0.26	2.29
	1st Otr 2002	0.33	0.24
	2nd Qtr 2002	0.27	0.32
	3rd Otr 2002	<0.2	<0.2
	1st Otr 2003	0.22	0.22
	2nd Qtr 2003	<0.2	<0.2
	3rd Otr 2003	<0.1	<0.1
	4th Qtr 2003	0.14	0.14
	1st Otr 2004	<0.1	<0.10
	2nd Qtr 2004	0.1	<0.1
	3rd Otr 2004	0.1	<0.1
	1st Semi 05	<0.1	<0.1
	2nd Semi 05	<0.1	<0.1
	1st Semi 06	<0.1	<0.1
	2nd Semi 06		
	1st Semi 07	0.17	0.2
	2nd Semi 07	0.12	0.16
	1st Semi 08	0.1	0.1
	2nd Semi 08	<0.1	<0.1

Note: Data for 4th Qtr 02, and 4th Qtr 04 missing

WQIF Grant Projects: application processing status 10-19-09

Signed Agreements					
Facility	Grant #	River Basin	Project Status	Grant %	Current Grant Amt. (modification signed or pending)
FWSA-Parkins Mill	07-01	Shen-Po	Project under construction	45	\$9,527,815
Woodstock STP	07-02	Shen-Po	Under construction; grant modified for bids	60	\$12,026,426
Mt. Jackson STP	07-03	Shen-Po	Construction complete; grant closed	45	\$1,801,311
Warrenton STP	07-04	Rapp	Under construction; grant modified for bids	45	\$3,357,716
Purcellville-Basham Simms	07-05	Shen-Po	Under construction; grant modified for bids	45	\$5,185,503
ACSA -Middle River Reg STP	07-06	Shen-Po	Under construction; grant modified for bids	60	\$9,318,024
ACSA- Fishersville	07-07	Shen-Po	Under construction; grant modified for bids	60	\$10,348,919
Onancock WWTP	07-08	E. Shore	Under construction; grant modified for bids	90	\$4,605,945
Arlington Co. WPCF	07-10	Shen-Po	Project under construction	35	\$96,176,190
Dale Serv. Corp #1	07-11	Shen-Po	Under construction; grant modified for bids	35	\$1,055,608
Dale Serv. Corp #8	07-12	Shen-Po	Under construction; grant modified for bids	35	\$1,037,393
MSA-Lex/Rockbridge Regional	07-16	James	Under construction; grant modified for bids	80	\$8,686,249
Orange STP	07-17	Rapp	Under construction; grant modified for bids	90	\$8,231,950
Culpeper WWTP	07-18	Rapp	Under construction; grant modified for bids	45	\$5,731,934
RWSA-Moores Creek	07-19	James	Under construction; grant modified for bids	60	\$21,586,139
HRRSA-North River	07-21	Shen-Po	Under construction; grant modified for bids	60	\$26,826,387
Waynesboro STP	07-22	Shen-Po	Under construction; grant modified for bids	75	\$11,325,871
Farmville WWTP	08-01	James	Under construction; grant modified for bids	80	\$517,755
King Geo. Co.-Fairview Beach	08-03	Shen-Po	Construction complete; grant closed	60	\$330,523
King Geo. Co -Dahlgren	08-04	Shen-Po	Construction complete; grant closed	60	\$1,010,441
Warsaw	08-05	Rapp	Under construction; grant modified for bids	75	\$4,877,901
Luray WWTP	08-06	Shen-Po	Under construction; grant modified for bids	75	\$4,877,924
Stafford Co. -Aquia; Phase I	08-07	Shen-Po	Construction complete, grant closed	45	\$1,857,407
Colonial Beach	08-08	Shen-Po	Under construction; grant modified for bids	80	\$6,086,322
LCSA - Broad Run	08-09	Shen-Po	Construction substantially complete	35	\$20,734,526
Tappahannock WWTP	08-10	Rapp	Under construction; grant modified for bids	60	\$4,710,623
FWSA-Opequon	08-11	Shen-Po	Project under construction	45	\$11,435,000
FCW&SA-Vint Hill WWTF	08-12	Shen-Po	Construction complete; grant closed	60	\$2,057,994
Middletown	08-13	Shen-Po	Construction complete; grant closed	45	\$276,098
PWCSA- H.L. Mooney	08-15	Shen-Po	Project under construction	45	\$37,125,995
HRSD-Army Base	08-17	James	Project being designed	60	\$56,078,801
Berryville	09-01	Shen-Po	Agreement signed	75	\$10,120,180
Richmond	09-02	James	Agreement signed; project being bid	75	\$45,674,244
Alleghany Co.-Lower Jackson	09-03	James	Agreement signed	80	\$5,132,119
Clarke Co SA-Boyce STP	09-04	Shen-Po	Under construction; grant modified for bids	60	\$1,650,122
HRSD-York River	09-05	York	Project under construction	60	\$29,783,374
Chesterfield-Proctors Creek	09-06	James	Agreement signed; construction underway	35	\$15,919,554
Chesterfield-Falling Creek	09-07	James	Agreement signed; construction underway	35	\$10,324,298
Fairfax Co. - Norman Cole	09-08	Shen-Po	Agreement signed; design proceeding	35	\$30,634,285
Broadway (was SIL-Clean Water)	09-09	Shen-Po	Under construction; grant modified for bids	60	\$4,794,413
Craigsville	09-10	James	Agreement signed; await bid award	90	\$3,474,852
HRSD-Nansemond	09-11	James	Under construction; grant modified for bids	60	\$22,494,778
Henrico Co. WWTP	09-13	James	Agreement signed; under construction	35	\$8,584,821
FCW&SA-Remington WWTP	09-14	Rapp	Agreement signed	60	\$3,486,221
Cape Charles WWTP	09-15	E. Shore	Agreement signed; project bid	75	\$7,960,630
ACSA-Stuarts Draft	09-17	Shen-Po	Agreement signed; design proceeding	60	\$3,847,320
Stafford - Little Falls Run	09-18	Rapp	Agreement signed; under construction	45	\$1,932,765
Rapidan SA-Wilderness	10-02	Rapp	Agreement signed; under construction	60	\$3,800,375
	48		Total =		\$598,421,041

WQIF Grant Agreements and Performance Expectations; Aug. 19, 2008

Grantee/Project ID	DEQ Region	1998-2000 BNR Projects			2007-2009 NRT Projects			Note:
		Grant Number	TN Conc. *	TP Conc. *	Grant Number	TN Conc. *	TP Conc. *	
Alexandria	NRO	440-S-98-10	8.0		440-S-08-14	3.0		
Alleghany Co. LJR	WCRO				440-S-09-03	6.0	0.30	b
ACSA- Fishersville	VRO				440-S-07-07	4.0	0.30	
ACSA -Middle River Reg STP	VRO	440-S-98-11	8.0	1.5	440-S-07-06	4.0	0.30	
ACSA -Stuarts Draft	VRO	440-S-99-05	8.0	1.5		4.0	0.30	a
Arlington Co. WPCF	NRO	440-S-98-08	8.0		440-S-07-10	3.0	0.18	
Berryville	VRO				440-S-09-01	4.0	0.30	c
Broadway	VRO				440-S-09-11	3.7	0.30	
Chesterfield-Falling Creek	PRO				440-S-08-21	5.0		b
Chesterfield-Proctor's Creek**	PRO	440-S-00-06	8.0		440-S-08-20	5.0		b
Clarke County SA-Boyce	VRO				440-S-09-4	4.0	0.30	
Colonial Beach STP	PRO				440-S-08-08	3.0	0.18	
Craigsville	VRO				440-S-09-10	3.0	0.30	
Culpeper WWTP	NRO				440-S-07-18	3.0	0.30	
Dale Serv. Corp #1	NRO	440-S-99-01	8.0		440-S-07-11	3.0	0.18	
Dale Serv. Corp #8	NRO	440-S-99-02	8.0		440-S-07-12	3.0	0.18	
Fairfax: Noman Cole	NRO	440-S-98-06	8.0		440-S-08-02	5.0		b
Farmville	SCRO				440-S-08-01	5.0	0.30	
FCWSA-Remington	NRO	440-S-00-02	8.0	1.5				
FCWSA-Vint Hill	NRO				440-S-08-12	3.0	0.30	
FWSA-Opequon	VRO	440-S-98-04	8.0	1.5	440-S-08-11	3.0	0.30	
FWSA-Parkins Mill	VRO				440-S-07-01	4.0	0.30	
Hanover-Totopotomoy	PRO	440-S-00-03	8.0					
Henrico WWTP**	PRO	440-S-00-07	8.0			5.0		a
Hopewell RWTF	PRO	440-S-00-01	21.0					
HRRSA-North River	VRO	440-S-98-05	8.0	1.5	440-S-07-21	3.7	0.30	
HRSD-Army Base	TRO				440-S-08-17	5.0	1.00	
HRSD-Nansemond					440-S-09-11	8.0		a
HRSD-York River	TRO				440-S-09-05	8.0	0.70	c
King George-Dahlgren	NRO				440-S-08-04	4.0	0.30	
King George-FVB	NRO				440-S-08-03	6.5	1.00	
Leesburg	NRO	440-S-98-07	8.0					
LCSA-Broad Run	NRO				440-S-08-09	4.0	0.10	
Luray	VRO				440-S-08-06	4.0	0.30	
Middletown	VRO				440-S-08-13	8.0	1.00	
MSA-Lexington/Rockbridge	VRO				440-S-07-16	6.0	0.30	
Mt. Jackson STP	VRO				440-S-07-03	4.0	0.30	
Onancock WWTP	TRO				440-S-07-08	4.0	0.30	
Orange STP	NRO				440-S-07-17	4.0	0.30	
PWCSA-Mooney	NRO	440-S-98-03	8.0		440-S-08-15	3.0	0.18	
Purcellville-Basham Simms	NRO	440-S-99-03	8.0	1.5	440-S-07-05	4.0	0.30	
Richmond WWTP**	PRO				440-S-08-19	8.0	1.00	b
RWSA-Moores Creek	VRO				440-S-07-19	5.0	0.30	
Spotsylvania-Massaponax	NRO	440-S-00-05	8.0					
Stafford Co. -Aquia; Phase I	NRO	440-S-08-07	8.0	0.18	440-S-09-12	3.0	0.18	a
Stafford Co. -Lil Falls Run	NRO	440-S-00-04	8.0					
Tappahannock WWTP	PRO				440-S-08-10	4.0	0.30	
Warrenton STP	NRO				440-S-07-04	4.0	0.30	
Warsaw	PRO				440-S-08-05	4.0	0.30	
Waynesboro STP	VRO				440-S-07-22	3.0	0.30	
Woodstock STP	VRO				440-S-07-02	4.0	0.30	

* all values are expressed as annual average concentrations (mg/l)

** Project may include installation of other NRT components which weren't grant funded & thus not reflected in the performance concentration

a = draft agreement in progress

b = sent to owner for signature

c = agreement at public notice

d = phased limits

Farmville
WWTP

VIRGINIA WATER CONTROL BOARDPIEDMONT REGIONAL OFFICEMEMORANDUM

SUBJECT: Town of Farmville - Wet Season Ammonia Limit

TO: File

FROM: George H. Whitaker *H. Whitaker*

DATE: January 12, 1990

Qr Stream Flow = 72.775 cfs = 47.01 MGD

Qw Waste Flow = 2.4 MGD

Cw Ammonia in effluent = 20 mg/l or 20,000 ug/l

Cr 0.0

VA Chronic Criteria ug/l = 760

Projected in stream concentration ug/l

$$Co = \frac{Qr Cr + Qw Cw}{Qr + Qw} = \frac{47.01(0) + 2.4(20)}{49.41}$$

$$Co = 0.971 \text{ mg/l} \text{ or } 971 \text{ ug/l}$$

Effluent limit needed to maintain the in-stream criteria of 0.760 mg/l.

$$Cw = \frac{(Qr + Qw) Co}{Qw} = \frac{47.01 + 2.4(.760)}{2.4}$$

$$Cw = 15.65 \text{ mg/l wet season limit}$$

Town of Farmville

Permit No. VA0083135

Effluent Limitations Basis

- BOD₅ - 1. Upper James River Basin Comprehensive Water Resources Plan
 "Water Quality Management Plan"
 Planning Bulletin 217-C, Volume V-A, Part 2 of 3 (1976)
 Page 300 and 314.
- 2.* Wet season limits - Based on wasteload allocation model
 (Memo dated Jan. 5, 1990 from D. X. Rin)
- DO - 1. Same as BOD₅ - Volume V-A
 Part 3 of 3 (1976) Page A-186
2. Water Quality Standards (VR680-212-00)
 (7-1-88) VR680-21-01.5, Page 10 of 168
- 3.* Wet season liimit - Based on wasteload allocation model
 (Memo dated Jan. 5, 1990)

Suspended Solids - Federal Register (August 17, 1973)
 Volume 38 Number 159, Page 22298

pH - Same as suspended solids - Page 22299
 Same as D.O. No. 2

Total Residual Chlorine - 1. Water Quality Standards (VR680-21-00)
 (7-1-88) VR680-21-01.11, Page 15, 16 and 17 of 168

2. VPDES Permit Manual (1-1-89)
 Appendix MN-3, Pages 11, 12, 22 23 and 29.
 Appendix MN-5, Page 8

Effluent monitoring data indicated that the following parameters exceeded the Water Quality Criteria for surface water:

<u>Parameter</u>	<u>VA Chronic Criteria ug/l</u>	<u>Projected in Stream Concentrations ug/l</u>	<u>Proposed Limits (ug/l)</u>
Ammonia	930	3133	5,940
Ammonia*	760	971	15,650
Copper	4.23	4.7	27
Lead	0.7	5.3	4.47
Cadmium	0.44	0.783	2.81
Silver	0.12	0.15	.766

Copy of reference attached.

*For the period 1 December through 30 April

Ammonia Criteria

pH	0 C	5 C	10 C	15 C	20 C	25C	30C
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A. Salmonids or Other Sensitive Coldwater Species Present

Un-ionized Ammonia (mg/liter NH₃)

6.50	0.0007	0.0009	0.0013	0.0019	0.0019	0.0019	0.0019
6.75	0.0012	0.0017	0.0023	0.0033	0.0033	0.0033	0.0033
7.00	0.0021	0.0029	0.0042	0.0059	0.0059	0.0059	0.0059
7.25	0.0037	0.0052	0.0074	0.0105	0.0105	0.0105	0.0105
7.50	0.0066	0.0093	0.0132	0.0186	0.0186	0.0186	0.0186
7.75	0.0109	0.0153	0.022	0.031	0.031	0.031	0.031
8.00	0.0126	0.0177	0.025	0.035	0.035	0.035	0.035
8.25	0.0126	0.0177	0.025	0.035	0.035	0.035	0.035
8.50	0.0126	0.0177	0.025	0.035	0.035	0.035	0.035
8.75	0.0126	0.0177	0.025	0.035	0.035	0.035	0.035
9.00	0.0126	0.0177	0.025	0.035	0.035	0.035	0.035

Total Ammonia (mg/liter NH₃)

6.50	2.5	2.4	2.2	2.2	1.49	1.04	0.73
6.75	2.5	2.4	2.2	2.2	1.49	1.04	0.73
7.00	2.5	2.4	2.2	2.2	1.49	1.04	0.74
7.25	2.5	2.4	2.2	2.2	1.50	1.04	0.74
7.50	2.5	2.4	2.2	2.2	1.50	1.05	0.74
7.75	2.3	2.2	2.1	2.0	1.40	0.99	0.71
8.00	1.53	1.44	1.37	1.33	0.93	0.66	0.47
8.25	0.87	0.82	0.78	0.76	0.54	0.39	0.28
8.50	0.49	0.47	0.45	0.44	0.32	0.23	0.17
8.75	0.28	0.27	0.26	0.27	0.19	0.15	0.11
9.00	0.16	0.16	0.16	0.16	0.13	0.10	0.08

B. Salmonids and Other Sensitive Coldwater Species Absent

Un-ionized Ammonia (mg/liter NH₃)

6.50	0.0007	0.0009	0.0013	0.0019	0.0026	0.0026	0.0026
6.75	0.0012	0.0017	0.0023	0.0033	0.0047	0.0047	0.0047
7.00	0.0021	0.0029	0.0042	0.0059	0.0083	0.0083	0.0083
7.25	0.0037	0.0052	0.0074	0.0105	0.0148	0.0148	0.0148
7.50	0.0066	0.0093	0.0132	0.0186	0.026	0.026	0.026
7.75	0.0109	0.0153	0.022	0.031	0.043	0.043	0.043
8.00	0.0126	0.0177	0.025	0.035	0.050	0.050	0.050
8.25	0.0126	0.0177	0.025	0.035	0.050	0.050	0.050
8.50	0.0126	0.0177	0.025	0.035	0.050	0.050	0.050
8.75	0.0126	0.0177	0.025	0.035	0.050	0.050	0.050
9.00	0.0126	0.0177	0.025	0.035	0.050	0.050	0.050

B. Salmonids and Other Sensitive Coldwater Species Absent (cont.)

Total Ammonia (mg/liter NH₃)

pH	OC	5C	10C	15C	20C	25C	30C
6.50	2.5	2.4	2.2	2.2	2.1	1.46	1.03
6.75	2.5	2.4	2.2	2.2	2.1	1.47	1.04
7.00	2.5	2.4	2.2	2.2	2.1	1.47	1.04
7.25	2.5	2.4	2.2	2.2	2.1	1.48	1.04
7.50	2.5	2.4	2.2	2.2	2.1	1.49	1.05
7.75	2.3	2.2	2.1	2.0	1.98	1.39	1.06
8.00	1.53	1.44	1.37	1.33	1.31	0.93	1.00
8.25	0.87	0.82	0.78	0.76	0.76	0.54	0.67
8.50	0.49	0.47	0.45	0.44	0.45	0.33	0.40
8.75	0.28	0.27	0.26	0.27	0.27	0.21	0.25
9.00	0.16	0.16	0.16	0.16	0.17	0.14	0.16
							0.11

Site-specific criteria development is strongly suggested at temperatures above 20°C because of the limited data available to generate the criteria recommendation, and at temperatures below 20°C because of the limited data and because small changes in the criteria may have significant impact on the level of treatment required in meeting the recommended criteria.

VIRGINIA WATER CONTROL BOARD

PIEDMONT REGIONAL OFFICE

MEMORANDUM

SUBJECT Wet Season Effluent Limits for Proposed Farmville STP
TO: *W/R* Curt Linderman via Golam Mustafa *GM*
FROM: D. X. Ren *DR*
DATE: January 5, 1990
COPIES: George Whitaker, File

The proposed Town of Farmville STP requested wet season effluent limits.

On September 18, 1989, PRO assigned dry season effluent limits based on information from existing files and documentation. These effluent limits are:

$$\begin{aligned} Q &= 2.4 \text{ MGD} \\ \text{BOD}_5 &= 11 \text{ mg/l} \\ \text{BOD}_u/\text{BOD}_5 &= 1.5 \end{aligned}$$

No TKN limit was assigned.

In order to generate wet season effluent limits, PRO followed headquarters' recommended procedures. It included:

The use of the U.S.G.S. gauge 02039500, on the Appomattox River at Farmville;

According to the U.S.G.S. gauge, data spanned a sixty year period beginning December 1926 and ending April 1986;

The wet season was determined to be December, January, February, March, and April.

The wet season low flow was calculated by headquarters' specific computer program. The low flow was calculated to be 72.775 (cfs);

The wet season temperature was based on EPA Monitoring Station data that was retrieved from the Storet System and was shown to occur ninety percent of the time. The wet season temperature was 15°C.

The recently revised SSMOD42 model was used to simulate this case.

MEMORANDUM

Wet Season Effluent Limits for Proposed Farmville STP
Page 2

In order to comply with the issued summer effluent limits for this case, no TKN limits were considered and the NBOD for the background was determined to be zero.

The background BOD_u and (BOD_u/BOD_5) ratio was determined to be 3.0 mg/l and 1.5 based on the existing file. The antidegradation policy was also applied for this case.

As a result of these modeling efforts, the following effluent limits are acceptable:

$$\begin{aligned} Q &= 2.4 \text{ MGD} \\ BOD_5 &= 25 \text{ mg/l} \\ BOD_u/BOD_5 &= 1.5 \\ DO &\leq 6.5 \text{ mg/l} \end{aligned}$$

No TKN limits were assigned.

The computer print-out (Farmvil8.dat, Wet Season Low Flow, Temperature, etc.) are attached here for your reference.

The above approach was discussed with Mr. Burton Tuxford. He agreed to do so.

If you have any questions about this, please let me know.

VIRGINIA WATER CONTROL BOARD

PIEDMONT REGIONAL OFFICE

MEMORANDUM

SUBJECT: Wet Season Flow for Farmville

TO: George Whitaker

FROM: D. X. Ren *DR*

DATE: November 26, 1989

COPIES: WRS File, Curt Linderman

As you requested, the wet season flow for the Town of Farmville was generated according to the methodology described in Headquarters' guidelines that were distributed in July 1988.

The set of data of record flow was adopted from the U.S.G.S. Water Resources Data Book. This record data spanned a sixty-two year period beginning April 1926 and ending December 1988.

According to the calculation, the following months were assumed for wet season for the Town of Farmville: January, February, March, April and December.

The respective monthly average flows are as follows:

<u>Month</u>	<u>Monthly Average Flow (cfs)</u>
January	384.00*
February	430.58*
March	444.47*
April	405.97
May	262.03
June	203.66
July	158.48
August	205.91
September	197.30
October	196.33
November	243.92*
December	300.02

(* Assumed as a wet season)

Total average flow: 286.31 (cfs)

Wet season average flow: 383.00 (cfs)

The plot for monthly average flow and data set for whole record period are attached here for your reference.

If you have any questions about this, please let me know.

/kk

MEMORANDUM

VIRGINIA WATER CONTROL BOARD
Piedmont Regional Office

2201 W. Broad St.

Richmond, VA 23220

804/367-1006

SUBJECT: FARMVILLE STP EFFLUENT LIMITS

TO: D. X. Ren

FROM: Curt Linderman *OK*

DATE: September 18, 1989

COPIES: G. Seeley, D. Paylor, J. R. Bell

Upon review of the files and supporting documentation, Wiley and Wilson's¹ determination of 220 lbs/day as the maximum allowable BOD₅ load for the Appomattox River appears appropriate, and should be used in establishing effluent limits for the proposed upgraded Farmville STP. The entire load may be allocated to the Farmville STP, resulting in a BOD₅ effluent limit of 11 mg/l at the design flow of 2.4 MGD.

In order that the SWCB staff may adequately evaluate the downstream effects of Farmville's discharge on maintaining high quality waters, it is recommended that the Appomattox River below Farmville be considered for an intensive stream survey. Proper evaluation is considered not to be available from the water quality monitoring stations currently located on the Appomattox River.

Please let me know if you would like to discuss this case further.

/cjl

¹ Wiley and Wilson, Inc., Upper James River Basin Comprehensive Water Resources Plan, "Water Quality Management Plan," Planning Bulletin 217-C, Volume V-A, Part 2 of 3 (1976) page 300 and 314.

² Load / Flow = Concentration, or: 220 lbs/day / (2.4 million gallons/day x 8.346 liters-lbs/mg-million gallons) = 11 mg/l BOD₅

MEMORANDUM

FLOW DETERMINATION

STATE WATER CONTROL BOARD
Office of Water Quality Assessments
4900 Cox Road P. O. Box 11143 Richmond, Virginia 23230

SUBJECT: Flow Frequency Determination
Farmville STP - VA#0083135

TO: D. X. Ren, PRO
FROM: Paul Herman, OWRM-WQAP *Paul*
DATE: March 16, 1993
COPIES: Ron Gregory, Charles Martin, Dale Phillips, Rich Ayers,
Mark Richards, File

The Farmville STP discharges to the Appomattox River in Farmville, VA. Stream flow frequencies are required at this site for use by the permit writer in developing effluent limitations for the VPDES permit.

The VWCB has operated a continuous record gage on the Appomattox River at Farmville, VA #02039500. The gage is approximately 350 yards upstream of the discharge point. The flow frequencies for the gage represent the flows expected at the discharge point and are presented below:

Appomattox River at Farmville, VA (#02039500):	1Q10 = 19
Drainage Area = 303 mi ²	7Q10 = 23
1Q10 = 17 cfs 10.88 mgf	30Q5 = 43
7Q10 = 21 cfs 13.57	30Q10 = 32
30Q5 = 42 cfs 27.13	HF1Q10 = 59
High Flow 1Q10 = 57 cfs 36.86	HF7Q10 = 73
High Flow 7Q10 = 73 cfs 47.16	HF30Q10 = 105
HM = 120 cfs 72.56	HM = 123

This analysis does not account for any significant withdrawals, discharges or springs between the gage and the discharge point.

If you have any questions concerning this analysis, please let me know.

HF: Dec - April

Town of Farmville

Permit No. VA0083135

Effluent Limitations Basis

BOD₅ - 1. Upper James River Basin Comprehensive Water Resources Plan
 "Water Quality Management Plan"
 Planning Bulletin 217-C, Volume V-A, Part 2 of 3 (1976)
 Page 300 and 314.

2.* Wet season limits - Based on wasteload allocation model
 (Memo dated Jan. 5, 1990 from D. X. Rin)

DO - 1. Same as BOD₅ - Volume V-A
 Part 3 of 3 (1976) Page A-186

2. Water Quality Standards (VR680-212-00)
 (7-1-88) VR680-21-01.5, Page 10 of 168

3.* Wet season liimit - Based on wasteload allocation model
 (Memo dated Jan. 5, 1990)

Suspended Solids - Federal Register (August 17, 1973)
 Volume 38 Number 159, Page 22298

pH - Same as suspended solids - Page 22299
 Same as D.O. No. 2

Total Residual Chlorine - 1. Water Quality Standards (VR680-21-00)
 (7-1-88) VR680-21-01.11, Page 15, 16 and 17 of 168
 2. VPDES Permit Manual (1-1-89)
 Appendix MN-3, Pages 11, 12, 22 23 and 29.
 Appendix MN-5, Page 8

Effluent monitoring data indicated that the following parameters exceeded the Water Quality Criteria for surface water:

<u>Parameter</u>	<u>VA Chronic Criteria ug/l</u>	<u>Projected in Stream Concentrations ug/l</u>	<u>Proposed Limits (ug/l)</u>
Ammonia	930	3133	5,940
Ammonia*	760	971	15,650
Copper	4.23	4.7	27
Lead	0.7	5.3	4.47
Cadmium	0.44	0.783	2.81
Silver	0.12	0.15	.766

Copy of reference attached.

*For the period 1 December through 30 April

✓A0083135 Town of Farmville WWTIP
Compliance Record

Year	Month	Item	Param Name	Requirement	Reported	Points	Pts SUM	W/L/NOV
2005	MAY	Denial of Lab Entry		07/10/2005	08/22/2005	.0	.0	
2005	JUL	Compliance schedule: 1ST SEMI - SUBMIT GROUND WATER MONITORING PLAN (SEMIANNUAL)				1.0	1.0	W2005-09-L-1008
2006	JAN	Compliance schedule: 2ND QTR PROGRESS REPORT - SCHEDULE OF COMPLIANCE		01/10/2006	02/13/2006	1.0	2.0	W2006-03-L-1015
2006	JAN	Compliance schedule: First Annual Nutrient Reporting Calculations		01/10/2006		1.0	2.0	
2006	FEB	Compliance schedule: Basis of Design Report for Nutrient Removal		02/10/2006		0	2.0	
2006	FEB	Compliance schedule: Interim Optimization Plan for Nutrient Removal		02/10/2006		0	2.0	
2006	APR	EnviroCompliance lab failed to meet DEQ lab requirements.				1.0	3.0	W2006-06-L-1011
2006	JUL	Compliance schedule: 4TH QTR PROGRESS REPORT - SCHEDULE OF COMPLIANCE		07/10/2006		1.0	2.0	W2006-09-L-1013
2006	OCT	Compliance schedule: 5TH QTR PROGRESS REPORT - SCHEDULE OF COMPLIANCE		10/10/2006		0	1.0	W2006-12-L-1005
2006	NOV	TSS, MAY -NOV				11.40	5	W2007-01-L-1010
2006	NOV	TSS, MAY -NOV				16.5	5	W2007-01-L-1010
2006	NOV	TSS, MAY -NOV				110.1349	5	W2007-01-L-1010

Pg 185

3 265

2006	NOV	QTYMAX	TSS, MAY-NOV	150	177.7945	.5	3.0	W2007-01-L-1010
2007	JAN	Incomplete DMR (less than 25% data missing)				1.0	3.0	W2007-03-L-1019
2007	JAN	CONCAVG--UNREPORTED PARAMETER	AMMONIA, ASN	15.6	X	.0	3.0	W2007-03-L-1019
2007	JAN	CONCMAX--UNREPORTED PARAMETER	AMMONIA, ASN	23.5	X	.0	3.0	W2007-03-L-1019
2007	JAN	Compliance schedule: Second Annual Nutrient Reporting Calculations		01/10/2007		.0	3.0	
2007	FEB	Incomplete DMR (less than 25% data missing)				.0	3.0	
2007	FEB	CONCAVG--UNREPORTED PARAMETER	AMMONIA, ASN	15.6	X	.0	3.0	
2007	FEB	CONCMAX--UNREPORTED PARAMETER	AMMONIA, ASN	23.5	X	.0	3.0	
2007	APR	CONCMAX	TSS, DEC-APR	37.5	46.071	.5	4.2	W2007-06-L-0008
2007	APR	QTYMAX	BOD5, DEC-APR	150	>178.491	.5	4.2	W2007-06-L-0008
2007	APR	Improper reporting of excursions for Parameters 359 BOD5 and 628 TSS				.2	4.2	W2007-06-L-0008
2007	OCT	CONCMAX	TSS, MAY-NOV	16.5	20.971	.5	.7	
2007	OCT	Compliance schedule: 9TH QTR PROGRESS REPORT - SCHEDULE OF COMPLIANCE		10/10/2007		.0	.7	
2007	OCT	Improper reporting of excursion on TSS CONCMAX				.2	.7	

Pg 3 of 5

2007	NOV	Compliance schedule: 9TH QTR PROGRESS REPORT - SCHEDULE OF COMPLIANCE		10/10/2007		1.0	1.7
2008	JAN	Compliance schedule: Third Annual Nutrient Reporting Calculations	01/10/2008		.0	1.7	
2008	MAR	No signature/date/phone				.2	1.9
2008	APR	CONCAVG	TSS, DEC-APR 25	34.470	.5	2.2	W2008-06-L-1008
2008	APR	QTYAVG	TSS, DEC-APR 227	284.685	.5	2.2	W2008-06-L-1008
2008	MAY	Excursions not reported for TSS			.2	3.2	W2008-07-L-1007
2008	MAY	CONCAVG	TSS, MAY-NOV 11	11.465	.5	3.2	W2008-07-L-1007
2008	MAY	CONCMAX	TSS, MAY-NOV 16.5	36.229	2.0	3.2	W2008-07-L-1007
2008	MAY	QTYMAX	TSS, MAY-NOV 150	176.641	.5	3.2	W2008-07-L-1007
2008	JUL	Compliance schedule: 12TH QTR PROGRESS REPORT - SCHEDULE OF COMPLIANCE	07/10/2008		1.0	4.2	W2008-07-L-1007
2008	AUG	Compliance schedule: 12TH QTR PROGRESS REPORT - SCHEDULE OF COMPLIANCE	07/10/2008		1.0	5.2	W2008-10-L-0006
2008	SEP	CONCAVG	TSS, MAY-NOV 11	17.183	2.0	7.0	W2008-11-L-0005
2008	SEP	QTYAVG	TSS, MAY-NOV 100	173.086	2.0	7.0	W2008-11-L-0005
2008	SEP	Compliance schedule: 12TH QTR PROGRESS REPORT - SCHEDULE OF COMPLIANCE	07/10/2008	10/08/2008	2.0	7.0	W2008-11-L-0005
2009	FEB	Compliance schedule: Achieve Compliance	02/01/2009		.0	3.0	
2009	MAR	CONCAVG	COPPER, TOTAL R23	54	2.0	3.0	W2009-05-L-1003
2009	MAR	CONCAVG	TSS, DEC-APR 25	58.539	2.0	3.0	W2009-05-L-1003

PP #85

2009	MAR	CONC MAX	COPPER, TOTAL R 23	61	2.0	3.0	W2009-05-L-1003
2009	MAR	AMMONIA, ASN	23.5	26.4	.5	3.0	W2009-05-L-1003
2009	MAR	TSS, DEC-APR	37.5	136.100	2.0	3.0	W2009-05-L-1003
2009	MAR	BOD5, DEC-APR	100	130.229	.5	3.0	W2009-05-L-1003
2009	MAR	TSS, DEC-APR	227	357.432	2.0	3.0	W2009-05-L-1003
2009	MAR	BOD5, DEC-APR	150	159.748	.5	3.0	W2009-05-L-1003
2009	MAR	TSS, DEC-APR	341	969.495	2.0	3.0	W2009-05-L-1003
2009	MAR	Excursions not reported for any parameter maximum exceeded			2	3.0	W2009-05-L-1003
2009	MAY	CONCAVG	COPPER, TOTAL R 23	40	2.0	5.0	W2009-07-L-0002
2009	MAY	CONC MAX	COPPER, TOTAL R 23	40	2.0	5.0	W2009-07-L-0002
2009	MAY	Excursions for COPPER CONC MAX not reported			.2	5.0	W2009-07-L-0002
2009	MAY	No letter of explanation submitted with DMR			.2	5.0	W2009-07-L-0002
2009	JUN	Letter of explanation for violation not received; excursions not reported for Parameter 203			.2	7.0	W2009-07-L-0012
		<i>Conner</i>					
2009	JUN	CONCAVG	COPPER, TOTAL R 23	53	2.0	7.0	W2009-07-L-0012
2009	JUN	CONC MAX	COPPER, TOTAL R 23	53	2.0	7.0	W2009-07-L-0012
2009	JUL	CONCAVG	COPPER, TOTAL R 23	24	.5	9.0	W2009-09-L-0008
2009	JUL	CONC MAX	COPPER, TOTAL R 23	26	.5	9.0	W2009-09-L-0008
2009	JUL	Compliance schedule: 9TH SEMI-GROUND WATER MONITORING	07/10/2009		1.0	9.0	W2009-09-L-0008

B 585

2009	JUL	Excursions not reported for Parameter 203 Copper, Total Recoverable			.2	9.0	W2009-09-L-0008
2006	JAN	Late DMR			.5	1.0	
2007	FEB	Compliance schedule: 2ND YEAR - SUBMIT CPLR SLUDGE ANNUAL REPORT	02/19/2007		.0	.0	
2006	JAN	Late DMR			.5	1.0	
2006	FEB	Compliance schedule: 1ST YEAR - SUBMIT CPLR SLUDGE ANNUAL REPORT	02/19/2006		.0	.5	
2007	FEB	Compliance schedule: 2ND YEAR - SUBMIT CPLR SLUDGE ANNUAL REPORT	02/19/2007		.0	.0	
2008	FEB	Compliance schedule: 3RD YEAR - SUBMIT CPLR SLUDGE ANNUAL REPORT	02/19/2008		.0	.0	
2009	FEB	Compliance schedule: 4TH YEAR - SUBMIT CPLR SLUDGE ANNUAL REPORT	02/19/2009		.0	.0	